

ARCHITECTURAL EDUCATION IN AMERICA.

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WHEN Constantine the Great, in the third decade of the fourth century of our era, decided upon the creation of a new capital at the mouth of the Bosphorus, he established a school for the training of the architects who were to design and erect its public buildings. This, the earliest organised school of architecture of which I have any knowledge, was a special device created to meet a special emergency. Through its means the architecture of Old Rome was transplanted to a new and provincial environment, and out of the seed thus sown grew up in a couple of centuries the splendours of Byzantine architecture. So far as we know, the school established by Constantine to meet a special and pressing need passed away with the emergency which called it into being. What its influence on Byzantine art would have been had it continued to exist is an interesting speculation, but a profitless one.

I have referred to this school, and to this speculative question which no one can answer, because there are certain analogies between the conditions under which architecture developed in Byzantium and in the American colonies, and because the question has been asked whether the creation of any school of architecture tends to help or to hinder the rational and free development of the art, whether in Byzantium or in America. In the American colonies, as in Byzantium, people belonging to an old civilisation were seeking to reproduce the arts of the homeland in a remote and provincial environment. Here, however, the analogy comes to an end. Byzantium, though provincial to the Roman mind, was already an ancient city, and the eastern empire of which it was the capital was itself full of the monuments of an elder art which had given lessons to Rome itself. The English, French, and Spanish colonists of America, on the other hand, were establishing themselves in new and virgin lands, destitute of cities, arts or culture except in those restricted regions in Peru and Central America where the Mayas and Incas had flourished and disappeared. When, under somewhat similar conditions, the wandering Dorians established themselves in Sicily and South Italy, they brought with them their own Doric architecture to a land not wholly unlike that which they had left behind them, and there was nothing to prevent their continuing to use the forms which they had already made their own. But for the Europeans in America, the difference between the old home and the new was tremendous, particularly in New England and Canada. The sundering waste of the ocean behind them, and the untamed wildness of the mountains and forests before them, made impossible any

textual reproduction of the architecture of the homeland. One most important circumstance impressed itself profoundly from the outset upon all their building operations. This was the necessary substitution of wood for the stone and brick in which they had been accustomed to work. In a forest-covered land, where every acre of tillage had to be won from the pines and oaks, construction in timber imposed itself as the only practicable and economical method of building. The habit of masonry construction disappeared for lack of opportunity for its exercise; and when, early in the eighteenth century, the first beginnings of true architectural art appeared, it was the architecture of Queen Anne, and later of the early Georges, interpreted in wood, not stone and brick, by carpenters and cabinet-makers, not masons. This Colonial American architecture, though British in its origin and relationships, and although much of the interior woodwork was no doubt made to order in England, the American builders developed into a genuine style of their own, full of refinement and charm, and suited to the material chiefly employed. Trained professional architects, however, there were none; a few standard books, like *Chambers' Civil Architecture*, and a well-established tradition gave coherence and unity to the style. The most accomplished designers of the time were often amateurs, like Dr. Kearsley, the architect of Christ Church, Philadelphia, and gentlemen often, no doubt, studied the Five Orders as part of their liberal education or as a fashionable accomplishment.

The first forty years of the nineteenth century witnessed a considerable architectural activity, greatly influenced in the late 'twenties and even through the 'forties by the English-Greek Revival. Many public buildings of the first importance were erected in the neo-Greek style, and granite and marble became the recognised materials for such buildings. This development demanded a far more highly trained class of designers than had formerly been necessary, and from sources which I have been unable to discover, the supply appeared. Both structurally and artistically the products of this period are often of very high merit, comparing favourably in design with much of the contemporary work in Europe. But their authors had studied in no technical school of architecture, and few had had any other training than that of apprenticeship to older practitioners and such learning as they could acquire from books. Few among them had seen the monuments of the Old World, for transatlantic travel was still costly and slow. The results they attained are doubly creditable when these limitations are remembered.

By 1840 the Gothic Revival began to extend its influence from England across the Atlantic, and more than one English architect, like Richard Upjohn in New York and Snell in Boston, came over the seas to give us the benefit of his home training in Gothic design. But there was no background of splendid monuments and picturesque ruins in America to stimulate interest in this style, nor even an architectural periodical, if we except two or three abortive efforts to maintain such a journal, none of which lasted longer than a few months, and most of which were pathetic in their poverty of material and illustration.

The Civil War period—from 1850 to 1876—was the period of darkest night for American architecture. Political conflict over the slavery question, mad speculation, and the sudden westward rush consequent upon the California gold discoveries of 1849, the horrible nightmare of the four years of Civil War, whose scars forty-five years have not yet wholly obliterated, and then ten years of most extraordinary industrial and political development—these wholly absorbed the energies of the American people. There was no surplus of time, strength, or attention to be devoted to the fine arts; and outside of Boston, which during this period was a true literary centre, there was hardly to be found anywhere in the United States a real artistic or literary atmosphere. Artistic taste was at its lowest ebb. With a few exceptions, the architects, so-called, of this period were destitute of that polite culture and of that artistic taste which had characterised the practitioners of the Greek and Gothic revivals. The taste of the people at large was utterly untrained and philistine. The prevalent methods and ideals of monumental construction

had degenerated equally with the decline in artistic taste. Architecture was a lost art, and there were few who appreciated or mourned the loss. It is hard to describe or to conceive the deplorable depth of the abyss into which the practice of building and the arts of design had sunk.

But it was precisely during this period that the forces and influences were gathering which were to bring about the coming reformation. The proverb was again to be verified that the darkest hour is that which precedes the dawn. With returning peace and increasing leisure, the amenities of the higher culture began to receive increasing attention. The tide of travel to Europe grew in volume yearly, and brought with each returning wave new influences making for a more refined taste and a more liberal culture. The narrowing chauvinism, if I may so call it, the provincial conceit of the American of that period, thrown back on himself by the ill-concealed hostility of Europe generally during the Civil War, began to break down, and the consciousness to dawn of the artistic poverty of American life and its environment. To this consciousness the Centennial Exhibition of 1876 at Philadelphia gave a mighty impulse. It was to two or three millions of people a revelation of the beauties and possibilities of the arts, especially of the industrial and decorative arts. Architecture gradually felt the same reviving influence. Museums and schools of art began to multiply with extraordinary rapidity throughout the land, and questions of artistic taste, and the discussion of statues, monuments, and buildings, began to occupy the public attention in the daily and periodical press. As this was the period of the beginning of my own architectural studies, I can testify from personal knowledge to the extraordinary force and universality of this artistic awakening. Out of this movement grew such great architectural schools as those of Columbia University and the University of Pennsylvania.

Already, however, out of the very blackest night of this philistine period, the first faint rays of the coming dawn had broken forth. The return of peace in 1865 had been followed by a sudden industrial awakening, especially in mining and the development of railway building and manufactures in the west. This led to the establishment of numerous technical schools, following the lead of Columbia College which had even in the midst of the war established its School of Mines in 1863. The great Massachusetts Institute of Technology was opened at Boston shortly after that date—I think in 1866. At any rate, in that year Professor William R. Ware, then practising in Boston, was charged to study in Paris the system and methods of the department of architecture of the *Ecole des Beaux-Arts*, with a view to obtaining data and suggestions for a similar department to be created by the Massachusetts Institute. Mr. Ware fulfilled this commission, and the new department was opened in September of that year, with Mr. Ware as its professor of architecture and director. Shortly afterward M. Eugène Létang was invited from Paris to become the instructor in design.

Five years later a similar department was established in the Cornell University at Ithaca, in the State of New York, in pursuance of the expressed wish of the broad-minded founder of that University, Ezra Cornell, that it should be an institution "where anyone could study anything he wanted to study." This department was placed under the direction of an accomplished scholar, Charles Babcock. A year or two later the State Industrial University of Illinois at Champaign, in that State, followed the example of Cornell, opening a department of architecture under the direction of Professor N. Clifford Ricker. It is a striking evidence of the youth of the American system of architectural school education that the three founders of these first three American schools are at this writing still living, so far at least as I am at present informed.

Thus at the time when the Philadelphia Exhibition marked the close of the Civil War epoch and ushered in the American Renaissance, there were in the United States three well-established schools of architecture, and these were the only organised and publicly recognised means for obtaining a professional training in architecture. But they could only suffice for a part of the

growing requirements of the profession; the majority of draughtsmen still depended upon the haphazard drill of office apprenticeship, and many offices had to resort to foreign draughtsmen, chiefly Germans, owing to the lack of technical knowledge of the average office-bred American. The British system of office pupilage, with a fee to remunerate the architect for his personal interest and attention to his pupils, never obtained any foothold in the United States. The youth starting on his architectural pilgrimage by the office road began his career as office boy, and later was given the coarser work to do in tracing details. If he showed some cleverness of hand and eye, he was in time given the scale drawings to trace, and thus climbing the office ladder step by step, without help or instruction, as best he might, picking up what knowledge of the science of construction and of the art of design he could by an alert use of eyes, ears, and tongue, he might in a few years become a designer or a superintendent of construction, *tant bien que mal*, and I fear more often *mal* than *bien*. There were, however, one or two exceptions to the usual order. As far back as 1859 or 1860, the late Richard M. Hunt of New York, freshly returned from Paris, where he had distinguished himself in the Ecole, and under Hector Lefuel had worked on the designs for the new Louvre, opened a private *atelier* or studio in connection with his office, and received as pupils a number of young men who later became distinguished architects: among them William R. Ware and George B. Post. These pupils he inspired by his infectious and unquenchable enthusiasm, and became to them a true master, *patron*, teacher and friend, so that this modest little *atelier* may be called the first nursery of architectural training in America, the germinant seed out of which has grown the whole great tree of architectural schools and of the American system of architectural education. For Hunt trained Ware, and Ware organised the school of architecture of the "M.I.T." (as the Massachusetts Institute of Technology is familiarly called), and later that of Columbia University; and these have more than any others given shape and direction to the whole system, as will presently appear. Thus it is chiefly to these two men, Richard Morris Hunt and William Robert Ware, that we in the United States owe our organisation and the methods of our architectural schools. To say this is no derogation from the praise due to other men whose offices have been fruitful nurseries of architectural ability; offices like those of the late H. H. Richardson and R. S. Peabody in Boston; of Geo. B. Post, McKim, Mead and White, and Carrère and Hastings in New York; of Daniel Burnham in Chicago, and many others in which men who later became highly successful received inspiration and practical discipline. But Hunt and Ware, whether or not they were exceptional men, did their work at an exceptional time. To pioneers belongs the credit of blazing new paths through the forest; the later comers, however adventurous and capable, cannot share in their particular prestige.

The four schools I have mentioned—those of the "M.I.T.," of Cornell University, of the Illinois State University, and of Columbia College—did not long divide the whole field. In 1883 or thereabout the University of Pennsylvania added a college of architecture to its already numerous departments of instruction; Syracuse University followed its example a few years later; the George Washington University at Washington (formerly the Columbian) followed in its turn; and the State University of California at Berkeley in that State did the same in 1899 or thereabout. About 1890 Harvard University established, in connection with its Lawrence Scientific School, a school of architecture, under the direction of Professor H. Langford Warren, after consultation with Professor Ware of the Columbia School, himself a Harvard man. This school has since been richly endowed and provided with a splendid building and fine equipment, and has a large registration, including many students from other departments of the University. In 1894 the "Society of Beaux-Arts Architects" of New York, composed of former students of the Paris School engaged in practice in America, began very quietly the development of a system of design-competitions which has extended till it covers the entire country, and has no doubt rendered a

valuable service in stimulating draughtsmen in offices, whether they have had any school training or not, to exercise their imaginations, perfect their draughtsmanship, and acquire, by competition with the cleverest among their ranks, a facility in design and drawing which perhaps no other discipline could give them. Numerous other agencies have taken up one or another phase of architectural training, contributing thereby to the supply of office draughtsmen possessed at least of the rudiments of a professional equipment. Some of these, like the Drexel Institute in Philadelphia, the Cooper Union in New York, and the Pratt Institute in Brooklyn, provide a fairly creditable and well-organised elementary curriculum—a good foundation for the student who proposes following up his studies in a university or technical college. Others, like the Young Men's Christian Associations, aim only at giving in evening classes, free or for a very low fee, instruction in office-drafting and plan-reading, for the special benefit of carpenters and builders and their apprentices, or of youths who desire to begin office work without passing through the earlier stages of office-boydom and indefinitely-prolonged tracing of full-sized details. This is true not only of New York and Boston, Philadelphia and Chicago, but of many cities of second and third-rate importance, especially in the eastern and middle western States. Though the training they offer is very elementary and often inferior in quality even within the narrow limits to which it is confined, it no doubt serves a valuable purpose in starting many a young man on a career of self-improvement, and opening perspectives of larger knowledge and wider usefulness to youths whose early life has been circumscribed and their education neglected.

These, then, are the agencies through which the aspiring youth may seek an entrance upon the architect's career: first of all the office and the uncertain chances of its unorganised apprenticeship; secondly, the evening classes of Young Men's Christian and Hebrew Associations and of various free evening High Schools maintained by certain municipalities; thirdly, the systematic courses of the Cooper Union, Drexel and Pratt Institutes, and like institutions; fourthly, the design competitions of the Society of Beaux-Arts Architects, with the help of the private teaching *ateliers* established in various cities by members of that society; and, finally, the architectural schools of the great universities and technical schools.

I propose now to discuss the organisation, methods and equipment, the curriculum and aims of the last-named group of schools. For it is in their wake that the other agencies have followed; it is owing to the higher standards of attainment and performance established and maintained by these schools that the demand has arisen for more intelligence and knowledge in the lower as well as the higher ranks of the office forces, and that these other agencies have arisen to supply that demand.

The first school of architecture was, as has been already stated, organised in Boston in 1866, as a department of a school of technology, and in part modelled upon the architectural section of the Ecole des Beaux-Arts in Paris. These facts are significant and characteristic. A school, with an organised curriculum, was a necessity because of the total absence of any regular and organised system of office apprenticeship. That it should be connected with a school of technology was but the logical consequence of two facts; first, that architecture requires, in common with engineering, a considerable amount of mathematical and purely scientific training, such as these schools were already providing, and that, indeed, on its purely structural side it is really a branch of civil engineering; and secondly, that there were no highly-developed schools of art prepared to supply any large part of the training required by the architect. Since, then, the Massachusetts Institute of Technology was already prepared to offer thorough courses in mathematics, mechanics, mechanical drawing, strength of materials, foundations, masonry and structural design, it seemed only necessary to add a professor who should teach the history of architecture and the theory of design, and one or two instructors in design and architectural

drawing and rendering, to complete the necessary staff of instruction. This was accordingly done, and the first American school of architecture was launched on its career.

But in organising the teaching of architectural drawing and design, what system should be followed, and whence should capable instructors be found? Although Professor Ware had strong leanings, in his own practice, towards the Victorian Gothic, then in the full tide of its popularity, he realised that he could not make of the new school a mere agency for teaching English Gothic design; and there was no institution in England for teaching architectural design upon which he could model any course of instruction in design suited to the needs of a highly-organised technical school. Of all the Continental European Schools to which he might turn for suggestions the great Ecole at Paris was the only one that promised practical results. The largest and oldest of them all, with its long-established and brilliant traditions, and the long roll of distinguished architects who had come forth from its ranks, it was the obvious model for study and imitation. Professor Ware's former master, Mr. Hunt, was one of its fruits, and if it had so filled him with enthusiasm what could be more promising for the success of the new course in design than to place it under the charge of some capable young man fresh from its inspiring influence? As there was then no American pupil of the Ecole available, M. Eugène Létang was called to the new post, which he filled acceptably for well nigh twenty years. It must be remembered that at that time—1866—the splendid work of Visconti and Lefuel on the New Louvre, of Duc on the Palais de Justice and of Garnier on the new Opera, was in full progress, that the transformation of Paris under Napoleon III. was not yet completed though far advanced, and that nowhere else in Europe was there any architectural activity comparable in splendour, brilliancy, and extent with that in Paris. It is not surprising, then, that in spite of the older traditions which led the architectural practice of the United States in the footsteps of the Mother Country, those who were seeking to raise a fallen art from her low estate should at this time turn to Paris rather than to London.

The results justified the experiment: the Boston School acquired a high reputation which it has maintained ever since, in spite of the multiplication of large and well-equipped schools throughout the country. After the death of M. Létang there followed a period during which the school lost somewhat of its pre-eminence in the matter of design; but in 1892 or 1893 M. Despradelle was called from Paris to the chair of design which he has ever since filled with conspicuous success, and from that date the M.I.T. School began to recover the lost ground. It stands to-day in the front rank, with but one or two rivals for the first place, and no small part of its continued success is due to the admirable and enthusiastic teaching of design by its accomplished professor from Paris.

The school at Cornell University and that of the Illinois State University at Champaign, Ill., paid less attention to design and to the artistic side of the course, and more to the practical and engineering sides. They did good and sound work, but in the nature of the case, remote as they were from the great centres of architectural activity, they were heavily handicapped in the competition with the Boston School, and later with that at Columbia University. Within more recent years, however, the Cornell School has remodelled its system and placed the teaching of design in the hands of French and American graduates of the Paris School, with the result of materially advancing in reputation and popularity.

In 1881 Professor Ware was invited by the Trustees of Columbia College in the city of New York—the institution which, founded as King's College under a charter from George II. in 1754, has since developed into the great Columbia University—to undertake the organisation and conduct of a department of architecture, upon the same general lines as that which had achieved such distinguished success under his guidance in Boston. That the proposed department should be attached to the technological faculty of the college which had grown up around

the School of Mines, already referred to, was a foregone conclusion. The invitation was accepted, and the new school was opened in 1881 with four students, in a gloomy room in an ancient building. Two years later the school moved into more adequate quarters in new buildings erected for the School of Mines, and in 1897 the entire institution, grown into a first-class university, was transferred to its present fine site and buildings on the Morningside Heights. The department of architecture, developed into a distinct school of architecture, though under the Faculty of Applied Science of the reorganised university, was in 1902 made an independent school, with a view to its later incorporation into a proposed Faculty of Fine Arts. This latest stage of its development was accomplished in 1906. These successive developments are significant of the gradual but steady growth of the appreciation of architecture as primarily an art, although involving in its practice exceedingly technical applications of the mathematical and physical sciences.

Let me now expose, more or less in detail, the plan of the Columbia course in architecture as representing the latest developments of the American system.

The present organisation of the course recognises three classes of students: first, those who aspire to the highest achievement in the profession, and to that end seek for a broad foundation of liberal culture through non-architectural studies before taking up their strictly professional courses; secondly, those who, without this broader foundation, desire to pursue a systematic course of architectural study for three or four years and to receive a definite academic recognition of their attainment; and finally, young men, already more or less experienced as draughtsmen in the profession, who desire to pursue special studies in architecture while unable to afford the time or expense of the complete curriculum.

Students of the first of these classes enter as candidates for the University degree and diploma of Bachelor of Architecture, upon completing, either at Columbia University or elsewhere, not less than two years of serious study in the ordinary A.B. course. Students of the second category, having had no collegiate training, are admitted upon passing examinations counting ten (or after 1910 twelve) "units," of which three must be in mathematics and one in freehand drawing, the other six being selected at will from the following subjects: mathematics, French, German, physics, chemistry, history, and English. The requirement thus technically expressed means nearly the equivalent of graduation from a first-rate non-classic high school at about eighteen years of age. The mathematics required for admission cover arithmetic, plane geometry, and algebra through the binomial theorem, series, and progressions. The English preparation required covers not only grammar and composition but acquaintance through certified reading with a selected list of the masterpieces of literature. These two items give an idea of the scope of the examinations, which are quite searching, and are conducted by a general inter-university board in June, in a large number of centres throughout the Union, and by the University itself in September in New York only. The third group are admitted without examination upon certification of having been for at least three years employed in architects' offices or in independent practice. Men of many years' experience sometimes avail themselves of this opportunity to make up for deficiencies in their earlier training or to profit by the latest instruction in architectural history or scientific construction.

Students of all these categories, without exception, must furthermore give evidence by work submitted, or by a special test examination, of a fair mastery of the elements of the Five Orders, shades and shadows and architectural rendering in Indian ink. Those who fail in this test, however, if otherwise prepared and admissible, are allowed to attend all class-room courses and are given a couple of months in which to make up the deficiency under this test before being allowed to join their class in the draughting-room. Columbia University is the only school which requires this preliminary test in draughtsmanship and the orders, and the proportion of those who pass it satisfactorily is still small, though yearly increasing. But the results in the school

of its enforcement are most gratifying, for the time spent upon these purely preliminary subjects is greatly reduced, and the student started by so much the earlier on the exercise of his creative imagination in design.

Students of the second category receive upon graduation a special diploma in the form of what is called the "Professional Certificate," but they receive no academic degree, and are not admitted to candidature for the M.A. and Ph.D. degrees. Those of the third group are called non-matriculates, and receive no academic certificate, though their passing of tests in the various courses they pursue is recorded in the University registers.

The curriculum leading to the degree of Bachelor of Architecture comprises the following groups of studies: (a) Mathematics and Engineering, comprising Analytical Geometry, Plane Trigonometry, the Differential and Integral Calculus, Mechanics, Graphical Statics, and Architectural Engineering—a specialised course in strength of materials and the calculations for masonry, columns, beams, and trussed constructions, arches and vaults, with specific problems to be worked out in full; (b) Architectural History, including a three years' course in the history of architecture and the history of ornament, with at least one year of readings in archaeology and architectural history in French or German; (c) Office-work and specifications, comprising parallel courses in the materials and forms of building and in specifications, and a certain amount of certified work in architects' offices; (d) Drawing and modelling, exercises occupying from six to ten hours per week through the entire period of study, in architectural draughting, modelling in plasticine, and free-hand drawing, from elementary cast-drawing to life-drawing from the nude, and including a considerable amount of training in architectural water-colours; (e) Graphics, comprising advanced shades and shadows, perspective, descriptive geometry and stereotomy; and finally (f) Design, considered as the crowning feature of the course, the end and aim to which all other branches pursued are contributory. This course comprises lectures on the theory of planning, composition, colour, and decoration, and a graded series of problems beginning early in the first year of study and extending to the end of the course, culminating in the graduating thesis—the design of a building upon a programme selected by the student, upon which he prepares a fairly complete set of scale working drawings and specifications, with strain-sheets, calculations, and structural details of a given part of the edifice.

Many of the lecture-courses are accompanied by exercises in design or in individual research in the library, so that the student is constantly compelled to apply or to verify the theories set forth in the lecture-room, and to express himself both in writing and in drawings, lest the instruction should degenerate into mere pedagogical allocutions, and study into a mere memorising of words. This is particularly important in the historical studies, for the ancient monuments which are within sight or easy reach for every European student of architecture are mere names to the American until he has been compelled to study their plans and photographs and become acquainted with them otherwise than by mere description and a half-minute's glimpse of a slide projected on the lecture-room screen. Lantern illustration, under these conditions, must of course be made the most of, and the school collection of 9,000 slides is an invaluable adjunct to the 18,000 photographs and the thousands of mounted prints of plans, sections, and details, in the school library.

The methods followed in the teaching of design I will presently explain in some detail. But a word is first in order as to the curriculum for the Professional Certificate. In its general lines it follows that for the diploma; but it substitutes for the course in mathematics and architectural engineering given to the diploma students a somewhat simplified course in the application of graphical methods and of the elementary mathematics to the design and calculations of structures and their members, making large use of the tables and formulæ published in the various engineering handbooks. In this course also the amount of historical studies required is somewhat reduced, while the requirements in drawing and design are correspondingly increased. This

curriculum is therefore more exclusively professional than the other, but it is less extended, and both in the preparation required and in the studies prescribed partakes far less of the character of a liberal education. The graduate in this course, after the two or three years of office practice, which is recognised as an almost indispensable adjunct to and corollary of the University course, will find himself well equipped for general practice, but the University declines to recognise such a training as possessing sufficiently those elements of liberal culture which the bachelor's degree and diploma conferred by a University ought to connote; hence the substitution of the Professional Certificate as a new form of academic recognition, giving full credit for the three or four years of serious study which have led to it, but without the implications associated with a degree.

If it be asked why the University should establish such a course instead of requiring an identical preparation of all its students and granting but one form of academic recognition, the answer is found in the attitude of Columbia University, as a servant of the public interest, seeking to meet every real educational need that manifests itself beyond and above those of the secondary education, so far as its equipment and resources permit. And since the number of young men is large who cannot afford the time and expense of two years of collegiate study (*i.e.* in the Baccalaureate curriculum) in addition to their professional course, but who are earnest and gifted aspirants for an architectural training such as no office or minor school can give, the University has created for them the special provision I have described. It is the same generous spirit of service to the largest number that has prompted it to open its lecture-rooms and drafting-rooms to draftsmen and practising architects who desire to enter as non-matriculantes in the manner already described.

I may here observe that Columbia University, which is the only institution requiring a test in the Five Orders and in sciography and architectural "rendering" for admission, is also alone in requiring two years of collegiate study for admission to its course for the diploma, and alone in offering a special curriculum leading to a professional certificate. All the other important schools of architecture admit to the course for the degree upon the passing of examinations (mostly under the General College Entrance Board) in subjects aggregating fifteen "units," as against the ten now exacted (twelve after 1910) for admission to the Columbia course for the certificate. They all also admit "special" or non-matriculate students. The curricula for the degree in architecture, in all the Universities and technical schools, resemble in general scope and outline that of Columbia University, though there is considerable variety in the time allotted to the several branches of instruction, in the emphasis laid upon one or another, in details of teaching and administration, and in the insertion of extra-architectural studies in the professional curriculum: such, for example, as general history, political economy, and the natural sciences. These have been omitted from the Columbia curriculum, first, because a fair proportion of them may be supposed to have been covered in the two years of collegiate study pursued before entering the school of architecture; and, secondly, because it is believed that more is gained in the end by concentration upon architectural studies during the period of architectural study, than is lost by the omission of these otherwise valuable subjects from the curriculum. Indeed, there are those who question whether, even if students could be induced to add one or two years to the period of professional study, it would be wise to devote any considerable portion of the added time to extra-professional studies instead of a still more thorough and extended discipline in construction and design. This is, of course, quite open to controversy, and the University authorities, recognising that all desirable subjects cannot possibly be crowded into a course averaging four years in duration, have simply made what seemed to them the wisest selection under the circumstances.

After all, architecture is an art of design. All the science and mathematics and office practice in the student's training are but a means to an end—and that end is the designing and erection of beautiful buildings. Architecture as a profession is the servant of the art of architecture, a means to the realising of æsthetic ideals in building. Design is therefore the ultimate and con-

trolling study of the course of discipline offered by the school; but it is that which offers the greatest difficulties and opens the widest door for controversy. After many years of experiment, the system followed in the Columbia school has shaped itself in the following manner.

The newly-entered student, already possessed of some slight acquaintance with the Orders and of the elements of drafting, is for three or four months subjected to a further drill in these subjects, in order to be able to express himself with some freedom in architectural form. The Orders are not treated as the sole language or the sole alphabet of the art, but simply as *one* form of architectural expression, and are carefully and thoroughly studied at the outset because there can be no free expression until one has mastered some one medium of expression. The remainder of the first year is then devoted to exercises in composing simple architectural structures with these elements: gateways, porches, vestibules, pavilions, and the like being the subjects assigned. The designs, carefully rendered with all shadows cast in Indian ink, are handed in at given times, and criticised and judged by some member of the school staff.

Upon the completion of a sufficient number of these introductory exercises—usually at the opening of the second year—the student is admitted to the lowest grade in the regular school competitions in design. There are three of these grades—the elementary, intermediate, and advanced. In each of these grades there are from five to seven or eight major problems given out during the academic year, and as many minor or sketch problems, the former requiring each from three to seven weeks for their completion; the latter one day only. The programmes for these problems are prepared by a committee consisting of the six teachers and honorary professors of design, who administer the three *ateliers* or drafting-rooms maintained by the University. The programmes are given out on a day set in the calendar, and the designs must be handed in on another set day, or they are not received at all. Shortly after this they are hung in a suitable exhibition hall, and judged by a jury consisting partly of members of the committee and partly of practising architects invited *ad hoc*. The jury awards *passes* counting three “points,” *mentions* counting four points, and *special mentions* to exceptionally meritorious designs, counting five points; designs failing of a pass get no credit whatever. For the sketch problems only three or four passes, counting one point each, are usually allowed in any one judgment. A student is promoted from the elementary to the intermediate grade on acquiring nine points; thence to the advanced grade on acquiring fifteen points; and is permitted to begin his graduating thesis upon acquiring fifteen points in Advanced Design if a candidate for the degree, eighteen if a candidate for the certificate. The work on the thesis usually occupies two or three months.

In style and scale as to drawing and presentation, the designs of the two higher grades somewhat resemble those ordinarily seen at the Ecole des Beaux-Arts Exhibitions of current work, and are of fully equal average quality. But the tendency is away from imitation of Parisian models; more attention is paid to composition and proportion, less to mere draftsmanship; and the problems, while selected to give full scope to artistic expression, are all more or less practical and American in character.

Of the three drafting-rooms of the school, the largest is at the University itself; the other two are down-town, close to the offices of the architects who administer them, and who visit them three or four times a week for personal desk-to-desk criticism. By this system, borrowed in part from the French, and thus far adopted by Columbia alone, the teaching of design is divided among six architects, all in active practice, instead of being conducted by one or two men giving their whole time to the work and being thereby withdrawn largely or wholly from active practice. An element of friendly emulation, both between instructors and between their students, is thus introduced into the work in design, which contributes much to the enthusiasm and spirit of that work. Moreover, the work as a whole is conducted with the combined wisdom of six men of experience and standing in the profession, and thus prevented from falling into the ruts which are apt to be

worn when but one mind for long years controls a department of study. The results so far—the system has been in operation five years—have been very gratifying. The improvement in the variety, imaginativeness, facility, and maturity of the designs produced and in the progress made by individual students has been very marked. The personal quality of the instructor has the fullest scope for influencing the pupil, and as far as seems practicable the advantages of the system of teaching by apprenticeship are combined with those of University administration and classroom instruction. Design can, of course, no more be taught in a classroom or by lectures than can the writing of poetry or the acquisition of a pure and noble literary style. But the University can teach certain laws and principles of design, as it can teach the laws of scientific harmony, though it can never create composers of music. It can acquaint the student with the great masterpieces of his art, and surround him with an atmosphere which will at least assist him in the training of his taste. It can give him problems of design to solve which will stimulate his imagination and tax his invention, and provide him with masters whose criticisms and suggestions will aid him in learning how to attack and how to solve a problem; but the results must depend on the student himself. The Columbia system is directed towards providing first that foundation of knowledge and science on which good architecture must always rest; and, secondly, that environment of opportunity and stimulation which shall make it possible for the student to realise the best and highest in him, and to develop those powers and faculties whose exercise is essential to success in design.

In the school of architecture of Harvard University there is but one general university *atelier*, but the giving out of problems in design and the criticism of the work are successively assigned to different architects in active practice. Thus variety of ideas and personality in the instruction are ensured, though the element of continuity is somewhat sacrificed, and there is no opportunity for the development of that emulation which results from the maintenance of three distinct *ateliers* as at Columbia. At the other schools the design is under a single professor with one or more assistants. At most of the other schools, moreover, the course is fixed at four years; while at Columbia it is of indeterminate duration, the student graduating when he has acquired the prescribed "points," so that the ambitious and highly capable man is not held back to the pace of the average, nor the faithful but slow plodder made to feel disgrace at not completing his programme of work within a rigidly-fixed limit.

It is impossible within the limits of this paper, already longer than I had anticipated would be necessary, to set forth in detail the methods employed, at Columbia and elsewhere, in the teaching of the various subjects I have mentioned, or to describe the material equipment of these schools. I can only make one or two very brief explanations with regard to the school which I have the honour to direct. I have referred to the course in specifications and materials and methods of construction. This course comprises two sub-courses of lectures illustrated by lantern slides, by models and samples, and by a remarkable series of large diagrams of modern American construction constantly revised to date. It is accompanied by fortnightly exercises in structural design occupying the entire day, and is supplemented by the requirement that not less than one month of each long summer vacation be spent in an architect's office. This seems a very small requirement, but it is surprising how much the student picks up of practical knowledge in the three summer vacations of his course, and how valuable this proves in conjunction with the two courses of lectures I have mentioned. Moreover, he cannot graduate until he has given proof of real proficiency in this field by the thoroughness and completeness of the drawings and specifications of his graduating thesis.

Usually, on graduation, the student does one of these two things: he goes to Paris or Rome for a year or two, or even more, of study of design under foreign masters or of travel among the monuments, before entering the mill of office work; or he goes directly into an architect's office at a fair compensation to spend a few years under its discipline in acquiring that experience which

alone can assure him success in the independent practice of his profession. The University expressly disclaims to produce trained architects in four years of study. Its graduates on leaving the academic halls stand in precisely the same relation to the profession as the young medical graduate or the graduate in law. Each of these has received his academic training, his equipment of knowledge of theories, of principles, and his first beginnings of their application: each goes to the hospital, to the eminent practitioner's office, to the grind of law-chambers under others, for years before he ventures on independent practice. So is it with our architectural graduates, who are, be it said in passing, almost always *personæ græte*, even *gratissimæ*, in the offices of their elders.

With regard to the tide Paris-wards of our architectural graduates, my opinions are already on record in both American and English professional periodicals. The brilliant reputation of the Paris school, the fifty years' tradition of its advantages for American students ever since the days of Hunt and Richardson, the influence of the Beaux-Arts Society and its competitions, and the glamour of the affixed title of *Diplômé de l'Ecole des Beaux-Arts*, all tend to draw Paris-wards the young American graduate who desires to visit the Old World or to acquire further discipline in design. But the Columbia University School seeks to discountenance the waste of time and duplication of work already done, involved in acquiring the Paris Ecole *diplôme*. We have sought to persuade our young men that the best that Paris can offer can be acquired by the graduate of an American school in a year or eighteen months, and without entering the Ecole itself; and that one year in Paris and one year of travel, half on classic soil and half in England and Germany—two years in all—are of more real educative value than three years spent in acquiring the French *diplôme*. Our own American schools are now offering post-graduate courses in design which are credited in part towards the higher degrees of M.A. and Ph.D., and several of them offer travelling scholarships for graduates, with or without conditions as to where the foreign study or travel shall be. Thus the young graduate has before him abundant opportunities for prolonging his studies and for the practice of inventive design without resorting to the *ateliers* of the Paris school. But the tide is too strong to be stemmed at once, and too many of our graduates still imagine their future prestige assured if they can only *décrocher le diplôme*, as they sometimes phrase it. Yet the signs are growing of the conviction that the great Ecole des Beaux-Arts is not after all the only gateway of artistic and professional salvation, and in time we may hope to see the Paris sojourn reduced to its proper scale in the student's perspective and given its real and true function and dimensions.

I cannot close without a word as to the work of the Society of Beaux-Arts Architects of America. It numbers now some two or three hundred members, scattered through the Union, and including some of the most distinguished of our younger and middle-aged architects. Its very active committee on education issues each year, according to a carefully prepared calendar, two classes of problems, each comprising seven or eight major problems and as many *esquisse-esquisses* or one-day sketches. The printed programmes for these are given out on a set day at a dozen or more centres in different cities, under a representative, in each place, of the Society, who gathers the sketches (the competitors retaining tracings of them) and sends them to the New York office. Anybody may compete; the majority of those availing themselves of the privilege being young draftsmen in the offices, who work upon the designs at night, in *ateliers* conducted by themselves under the direction of a patron or critic belonging to the Society. A select jury judges each set of designs, awarding medals and graded mentions, and the highest premiated designs are published in one or more periodicals.

A course of training in these competitions is not, of course, the equivalent of an architectural education, but it is of undoubtedly great value to those who pursue it. The exact extent of the benefit to be gained from so doing depends on the student himself; much also on the character

of the problems and on the attitude of the juries. It is not surprising that French ideas prevail in both these points, and that the tendency has been to encourage the competitor to study modern French work and Ecole drawings in preference to more classic models, and to foster a certain virtuosity of draftsmanship at the expense of the more careful study of proportion and composition. Yet the judgments are more catholic than those at the Paris school; originality of conception when sound and well-carried-out is frequently rewarded; and oftentimes the student, realising in the end that further progress requires a broader foundation of knowledge and intellectual discipline, finally enters one of the great schools of architecture to obtain what the "Beaux-Arts concours" can never, unaided, give him.

I have thus sketched, in a very summary and I fear incomplete way, the history and methods of architectural training in America. I am well aware that such a sketch as I have made raises more questions than could be answered in several hours. Indeed, many of the questions it raises have not yet been answered, either in America or anywhere else. We are fully aware of many of the deficiencies of our own system; we are at work on many problems still unsolved. How far, for instance, should the training in design be disciplinary, how far practical? To what extent should originality be encouraged, and to what extent subordinated to a rigid training in proportion and composition, using the more familiar and established forms of architecture as the alphabet? What is the best means of training the taste? What is the real value of lecture courses on the theory of planning, composition, decoration, proportion? Should the purely intellectual and cultural discipline of the present schedule be enlarged, to give broader foundations, or reduced, to allow of more practical and intensive teaching? How much engineering ought a young practitioner to have mastered before leaving the school? On all these and other questions widely divergent opinions exist in the profession itself as well as among University educators, and there is constant pressure from opposing forces. Our present methods in America are the resultants of these forces; they appear to us the best compromises, on the whole, that we can make. Fortunately we are not, either in the Universities or in the technical colleges, bound by rigid traditions. Our systems have changed greatly in twenty years; our hope is that they may always remain sufficiently flexible to respond to changing conditions and new requirements. Only thus can architectural training be made to build up a living art.

ADDENDUM.—To my great regret I find that the papers and examples of students' work I had left in New York to be forwarded to me in London have not arrived, and I must depend upon my memory for such statistics as I shall venture to give you, under all reservations as to their accuracy. There are, as nearly as I can gather, fifteen schools of architecture in the United States which offer a full curriculum leading to a degree and diploma of Baccalaureate grade. These, with the approximate registration of such of them as I have been best acquainted with, are as follows:

| | Students 1908-09. | | |
|---|-------------------|--|---|
| Mass. Institute of Technology | 120-140 | Washington University, St. Louis | — |
| Cornell University | 80-100 | University of California | — |
| Illinois State University | — | Armour and Art Institute at | |
| Columbia University | 140 | Chicago, affiliated with the | |
| University of Pennsylvania | 150 | Chicago University | — |
| Syracuse University | — | University of North Carolina | — |
| Harvard University | 100-120 | Alabama Technical Institute | — |
| George Washington University | | Tulane University, New Orleans | — |
| (Washington, D.C.) | — | Michigan University | — |

In addition to these, the Cooper Institute at New York provides a five years' course of evening study, leading to a diploma, but this is hardly a real school of architecture, its emphasis being laid upon the practical and trades side rather than the artistic side of architecture. Its graduates

make fairly good draftsmen and superintendents, but I have rarely or never heard of their reaching the higher walks of the profession.

I should like also to add a word as to the influence of the schools upon the art of architecture in the United States, endeavouring in this to detach myself as far as possible from the point of view merely of the director of one of these schools. I think the verdict of history will be that this influence has been salutary, making for a broader culture and for higher standards in the profession, and that the notable progress of American architecture in the last thirty years has been very largely due to the development of the schools in which our men have been trained. By far the greater proportion of the notably successful practitioners of, say, fifty-five years and under in age now in the ranks are school men, and the proportion is increasing. The great defect, if any, in our system at present is its too great dependence upon Paris ideas, ideals, and men; and the consequent lack of originality, of initiative, of freedom in matters of style. Yet this fault is gradually being amended, and, after all, it has seldom reached the point of slavish imitation of French work except in the hands of young and inexperienced men: on the whole, American work is widely different from French work. But I hope to see, in the next few years, a greater independence in the work of our school graduates and in the work of the schools themselves: above all, I hope to see a greater regard for materials and their several capacities for expression; for the United States are especially rich in superb building materials which lend themselves admirably to distinctive modes of design and special details. I also hope to witness in the near future, alongside of the architectural training, a great advance in the resources for training decorative sculptors and painters, and an increase in the opportunities for employing them. Much otherwise very excellent monumental architecture in America suffers from inadequate enhancement and vitalising by monumentally decorative sculpture and decorative painting, and I hope the importance of this will be more and more appreciated and dwelt upon in all our schools of art, including those of architecture.

DISCUSSION OF PROFESSOR HAMLIN'S PAPER.

Mr. ERNEST GEORGE, *President*, in the Chair.

PROFESSOR HAMLIN, before reading his Paper, addressed the meeting as follows: Mr. President and Gentlemen, I should like to say a word personally and familiarly to express the delight it gives me to appear before you, and the honour that I feel has been conferred upon me by the invitation to read this Paper. The Royal Institute of British Architects is well and widely known in the United States, and held in the highest honour and esteem; and what has been a very peculiar pleasure to me, and I trust will continue to be a great pleasure in its further development, is the fact that I am now becoming acquainted with many whose names have long been familiar to me and to many of my colleagues in the profession in the United States, by reason of their admirable work and their many contributions to the history, to the theory, and to the general knowledge of architecture. These have largely been names to me in the past; now they are becoming living entities, and many of them already personal friends. It is therefore not only a great honour that I feel in coming here, but it is an extreme personal

pleasure, the intensity of which I am not able adequately to express.

MR. T. G. JACKSON, R.A., rising at the President's call after the reading of the Paper, said he had listened with very great pleasure to the extremely clear and complete account Professor Hamlin had given of architectural training in his country. The system, he understood, contemplated three classes of students. The first, which he would call Class A, had to go through a course which led to a diploma in architecture; it embraced a two years' course in general subjects unconnected with architecture, such as are required for a degree in Arts. The second—Class B—was a course leading to a certificate, but with no degree, confined to architecture only: and more stress was laid on architecture in this than in the former class. The third—Class C—was general teaching for men already at work in architecture but wanting to improve themselves in their profession, who got no certificate at all. It seemed to him that Class A was based on a confusion of ideas. General

culture, a liberal education, was one thing, but architectural training was another. That a man should graduate in Arts in the usual way and afterwards proceed to the study of architecture was intelligible enough: it happened often with good men who had been to Universities and afterwards entered an architect's office and studied architecture with very great advantage. But to treat study which qualified for a degree in Arts as part of an architectural curriculum seemed to him a sort of intellectual muddle which mixed up two different subjects entirely; and he could not help thinking that it was inspired, if he might suggest such a thing, by a motive of which they had had instances in this country—trying to give a sort of adventitious respectability and dignity to the profession of architect by the possession of an architectural diploma, which in his opinion was an entirely fictitious distinction. Coming to the second class, strictly architectural teaching was more thorough than in Class A. It was more exclusively professional than the other—it was less extended, both in the preparation required and the studies prescribed, and partook less of the character of a liberal education. More time was given in this class to actual architectural teaching than in the first. The last class of all was confined to the simple practice of architecture by men who already knew something of it. This, he should imagine, was an extremely useful class—perhaps the most useful of all three. He was the last person in the world to decry general culture. He would have a man as well cultivated and as well educated as he could possibly be; for the sake of the individual man, the more he knows, the more he is cultivated, the greater is his intellectual pleasure and the greater his usefulness to mankind; for the man, no doubt, general culture is a thing to be desired. But general culture would never make a man an artist. Looking at history and the careers of great artists, painters, and sculptors, it would be found that in most cases they had risen from the ranks. It was much the same with great architects. In classical times many of the great architects were slaves—though slaves were sometimes educated as well as their masters. Great philosophers had been slaves. The masterpieces of mediæval art, he imagined, were all built by men whom they should call illiterate. In saying this he did not mean in the least to decry the advantages of culture. All he meant to say was that the influence of culture upon art in the individual artist was indirect, not direct. He did not think by attaching any scheme of general culture as of necessity to the training of an architect they were doing any good at all, and for that reason he could not help thinking that there would be quite as much hope, if not more—he rather gathered from something the lecturer had said that this was so—that from the two University classes which carried no University decoration one might look perhaps for better

architects than would be produced by the first class which carried with it a greater distinction. Might he say, too, that he thought there was too much stress laid on mere technicalities and scarcely enough on design. That mathematics might be useful to an architect in certain conditions he could quite understand; but, if he might speak for himself, he confessed with shame that his mathematics did not go much beyond the first four rules, and though sometimes he might venture into a higher rule, he did it with diffidence. Nevertheless, those rules were enough to enable one to know the weight one had to carry, and the strength one had to provide for, and then there were a few humane people who were considerate enough to provide tables for ignoramuses like himself, and these he always found sufficient for the purpose. Hence, though he did not want to decry mathematics, he thought it was not necessary to lay so much stress upon it as was done in this curriculum. There were so many things now that an architect had to learn that it was impossible for him to become expert in all; and he thought any architect who was wise, when considering the heating and ventilation of a building, for instance, would send for an engineer to aid him in writing the specification. The same with all electrical matters, and with any exceptionally difficult problems of drainage, he thought that an architect who was wise would feel that the time had come when these matters were too intricate and complicated, and so much beyond what was actually architecture, that if he did it entirely himself he would probably do it very badly, and it was much better to take advice from those who had made it a study; therefore the architect's studies in those directions need not go so absolutely into details and particulars as was contemplated in some of these curricula. There was one thing on which they all felt with Professor Hamlin, the difficult position of students of architecture who had no old buildings in their own country. It had often seemed to him that in that very fact, in the inexorable conditions of space and time and circumstances, there was a suggestion that one had always hoped that American architects would take advantage of. He could not help thinking that, although they knew very well that all styles must be developed from preceding styles—old architecture—that no art ever came into being of itself fully equipped—still the examples of the Old World had been so long studied in America, and had produced so many good architects of originality who had done interesting work—and they might expect from their successors work of the same kind—it had often occurred to him that the time had come for Americans to shut the book of old European architecture and to follow their own career, developing the good work which had already been done by their own sons in their own country, and not to look everlastingly across the ocean for

examples in the old country. Perhaps they might hear something of that from Professor Hamlin.

PROFESSOR REGINALD BLOMFIELD, A.R.A., said that, before offering any remarks on Professor Hamlin's Paper, he should like to say how glad they were to have Mr. Jackson at the meeting that evening. Mr. Jackson had not always seen eye to eye with the Institute on matters of general policy, but with regard to matters of education he had always been with them an enthusiastic advocate of it, and had given a great deal of time and trouble to it. It was a proof of the importance of this subject that a man of Mr. Jackson's distinction should come among them and give his views on the question. He (the speaker) was not in agreement with all Mr. Jackson's views. He did not think that historically he was quite correct in what he had told them on this matter of general culture, because only last Christmas they had it on the authority of the Architectural Association play that Ictinus was a tremendous fellow! Coming later down the ages, the architects of the Renaissance were men of reasonable culture, and some of the most characteristic among them were highly educated men. Professor Hamlin's eloquent address was a most admirable exposition of, he supposed, the latest light on the education of the young architect of America. He might have had something to say upon it, but unfortunately he had lost his notes, and must limit his remarks to three points that occurred to him. The first was on the general question which Mr. Jackson had touched upon in a very interesting and a very sound way, namely, the distinction between technical instruction and education. It was evident that in America they believed in architecture, that is to say in technical subjects, as what Professor Hamlin called a matter of liberal culture. We had come really to this point in the matter—there were two ways of looking at education; it was intended either to train the mind, or to pile up in the mind a certain quantity of knowledge. Old-fashioned educationalists said that the whole object of education from youth upwards, and before entering upon special study, was to train the mind. We had then to consider was this architecture, this technical study, as good a method of training the mind as the older and more accredited subjects? Here, again, the advocates of the older methods of education said unhesitatingly that it was not. It was on this ground that they did not wish that it should be introduced into the curricula of our Universities. The next thing would be we should have it in our public schools—we should have boys dropping their education at fourteen. At any rate it seemed to him, and to much older and wiser men than himself, that architecture as a medium of education was inferior to the older methods of mental training. And in the second place there was a practical point with regard to the architect himself. These young men ought to come into an architect's office, and per-

sonally he should prefer to have in his office a young man who had gone through the best education he could in general subjects, rather than have a young man who had had a very partial education and had then overlaid it by an imperfect technical education—that is to say, one would prefer to impart such technical instruction as one could to a well-trained mind rather than to an ill-trained mind. There were two other points he should like to call attention to. In the system of training as it was handled in America, and as it had been described to them in Professor Hamlin's address, they did not appear to lay stress on draughtsmanship—and he was very much surprised that that was so, knowing how magnificent some of the American draughtsmanship was. He supposed it was there implicitly, but he did not find any great stress laid upon it in Professor Hamlin's address. The American system in the main—though he was glad to learn from Professor Hamlin that it had been modified in a more practical direction—followed the Beaux-Arts curriculum; it followed the lines laid down by that prince of professors, Blondel, who 150 years ago had perfected and originated a course of instruction in which all these studies were clearly detailed. He fancied if they looked at Blondel's syllabus they would find that it was on all fours with Professor Hamlin's own. Yet in Blondel's time draughtsmanship was made to a large extent the basis of their training. He was afraid that in England, owing to a misunderstanding, they were losing sight of that. Some years ago a great effort had been made to reorganise architectural training in this country, and so much stress had been laid on technical matters of construction that they had rather overlooked the importance of draughtsmanship. He felt himself that in architectural training this draughtsmanship was of very great importance, and that they ought to pay more attention to it in this country. There was another point as regards education which hardly applied to America, because Professor Hamlin had told them distinctly that apprenticeship had never really taken root in America, and therefore the shoe did not pinch them; but it was beginning to pinch them in England rather badly,—again, he thought, owing to a misunderstanding of their efforts at educational reform. Apprenticeship—the training in an architect's office—had begun to go out of fashion altogether. They had hoped, when they were at work on this scheme of education, that they should put their boys and their young men through their facings in a school—that there they should learn at any rate the drudgery of the preliminary technique, and then come fairly trained into an architect's office, when they might be better qualified to learn than if they came perfectly crude from the school or the University. He regretted to say that that idea had not been followed out loyally, but had been a good deal wrested from its original intention; and apprenticeship, so far as he could observe, and so far

as other more experienced men could observe, seemed to be going out of fashion in this country. And he thought it was a great mistake that it should go out of fashion. He attached great importance to preliminary training at schools, but he would rather sacrifice that than give up apprenticeship altogether. They must recall what happened (he made this thrust at the professors) after Blondel started his magnificent course. They had first Louis Seize, then Empire, then French Gothic, then Viollet-le-Duc, and then the classic of Napoleon the Third. They had got to about the bottom when they reached that phase of Gothic on the one hand and Classic on the other, and he trusted it would not be a precedent for what would happen in our own country. He did not believe it would. He believed we had much more individuality in this country, and he believed that apprenticeship in an architect's office would develop that individuality. He did not believe we should ever build up the magnificent tradition that the French had established, and, very desirable though that was, it was wiser to have regard to the traditions of our own country and our own race.

MR. JOHN W. SIMPSON [F.] said it was his particular privilege and very great personal pleasure to propose a vote of thanks to Professor Hamlin for his more than excellent address. It was one of the most interesting, most thoroughly worked out, and most charmingly presented Papers he had ever had the good fortune to listen to in that room. He should like to go through a great many points which the Professor had mentioned, but at that late hour he was afraid even to open upon it. The Paper was as full of meat as an egg. But there was one point he would venture to try and answer—viz. the question whether the creation of any school of architecture tended to help or to hinder the rational and free development of the art. That question must be answered, because if they left it in doubt, and still more if they allowed it to be answered in the negative, it would cut from under their feet the whole inducement which inspired their efforts for education. A school of some sort or another was a necessity for the growth of architecture. All their art was founded on tradition, and from that tradition they could not get away. The difference between a nation without a school and a nation with a school was that one had learnt its tradition easily by direct means through the teaching of men of greater experience, and the other had had to find it out for itself and had learnt its tradition imperfectly. But tradition there must be, and the simplest way of carrying on tradition was by means of a school. Then the Professor gave the date—1866 he thought it was—and remarked how short a history theirs was of education in America. The Professor's remark reminded him of the charming Yvette Guilbert, who was cross-questioned the other day by a reporter when she was leaving New

York. She made some strictures upon certain points of New York life of which she did not approve, and the reporter said, "Remember, madam, we are but a young nation," to which that delightful person replied, "The youthfulness of the American nation is one of its oldest traditions!" When the Professor spoke of 1866 as such a recent date, he asked himself what was the date of our own education here; how far back did we go for any systematic attempt at teaching architecture? We in the Institute at any rate were only in the middle of our efforts to greatly improve, reorganise, and co-ordinate the education of our architects throughout the country. He had said education—he would prefer to substitute the word "training," because he thought with Mr. Jackson that they should not confuse education with the technical training of the architect. But we had set up under our new Charter a Central Board, and he hoped on that Board we should find the greatest and best men in the country who would take over the whole question and direct it and guide it so far as they could.

PROFESSOR C. H. REILLY, M.A. Cantab. [F.], in seconding the vote of thanks, said he was a whole-hearted admirer of the great American schools, even to the extent of paying them the flattery of imitation at Liverpool, where architectural courses were designed very much on the lines that Professor Hamlin had described. Liverpool University had its B.Arch. degree, and its diploma for professional students, but in the courses for both of these—and here it differed from the American practice—it included a period of not less than two years of office work. He was particularly glad to have this opportunity of thanking Professor Hamlin, because he had recently had the pleasure of visiting his school at the Columbia University, and the other great schools of America, and he had come back more impressed than ever with the magnitude of the work they were doing. The American journals and reproductions of American work here testified to the great improvement that had taken place in the last decade, an improvement it seemed to him chiefly in two directions—viz. in the great monumental character that pervaded their architecture, and in the refinement of detail it possessed. Although America had always had signally distinguished architects, great personalities leading the profession, those architects, so far as he could gather in his short visit, were engaged in such vast practices, with such large office staffs at their command, that it was impossible for them to give that individual attention that they in England were accustomed to give to their work, and the consequence was that this re-refinement, this general feeling of scholarship which was so apparent in the modern buildings of America, was due and must be due in a large measure to the assistants; and he thought that this training of the assistants was, in its turn, due to the growth during the last ten or twelve years of these large schools of architecture

with their very complete and elaborate equipment. Turning to the schools themselves, the first difference to be noticed was in the length and the thoroughness of the training provided. Four years appeared to be a minimum length of course. As an example of the eagerness of the students he might mention that at Cornell, on returning there at 10 o'clock at night, he found the students at work in the draughting-rooms—some thirty or more of them—making a jovial scene of song, but with a great deal of work being done; and he was told that the same students returned to lecture at 7 o'clock the next morning. After that he was glad to be told that the Architectural College beat all the others at games. It was obvious then that there was a great deal of vigour in their pursuits. Further, although their studies continued four or five years, all this time they were carrying out a series of designs of increasing magnitude. There was one on the wall which he managed to bring away from Pennsylvania University; it was a design set by the Beaux-Arts Society, and was being worked at in the various schools he went to. He saw two or three hundred such designs for a Naval Pantheon. This one showed the way the imagination was trained and the style of draughtsmanship that was expected. It was fourth year's work, and one month was allowed for it. He thought there were few of them in England who would like to turn out such a design as that shown in one month's work. That particular set was done by an Englishman trained at the Pennsylvania School. But it was not, he thought, the length of the term or the enthusiasm of the students that had caused this great revival—as Professor Hamlin called it—of American architecture. It was because they had apparently in all their schools a perfectly definite faith. So far as he could make out, they devoted themselves to teaching monumental architecture based on great classic traditions, and did not worry in their designs with any of the immature styles—Tudor, Elizabethan, Jacobean—but went straight to the fountain-head. Their reading and study followed the whole course of history, but their design was of this definite type; hence, they reached a facility and quickness of design which the majority of our students lacked, and they could tackle great problems with a power which it took many years in England, and big competitions for actual buildings, to give to the English architect. That was the great outstanding feature of American training—they put before their students the opportunity of doing monumental architecture. That, he thought, was a much finer ideal than giving them the actual problems they might have to carry out in the first six months of their architectural career. It was more important, he thought, to awaken the imagination of the student than to equip him with all the knowledge necessary for the execution of a week-end cottage or a small farmhouse. It was due to this fine training in design that great monumental

architecture was being built up in America, architecture which, he thought, they would soon come to realise as the great American style which had been mentioned this evening.

MR. H. HEATHCOTE STATHAM [F.] said he should like to say a few words on one or two points that he felt strongly upon during the reading of the Paper. The first was a reference to that old colonial style of timber building, and the Professor's reference afterwards to the hope that the influence of material would be more felt presently. That was a beautiful instance of the influence of the material. If they looked at the old colonial work, they would see the classic style transformed by the influence of timber—the colonnades with the influence of the classic style about them, but the proportions totally changed in consequence of the working in a different material. The second point he wished to mention was that he had felt for a long time that there was far too much in American architecture of the *Ecole des Beaux-Arts*, and he was very glad to hear that Professor Hamlin thought there was going to be a reaction against it. He had been in the habit for many years of going over to the Paris Salon every year, where he saw a number of very fine monumental designs, which were all very good; but it always seemed to him that he saw the same every year—they got a school, but they got no individuality. With regard to what Mr. Jackson said about the advantage of going to specialists, he (Mr. Statham) was one of those with no mathematics, and he regretted the want of them every day; but though the details of electricity and drainage became too complicated for one man to know them all, and, as Mr. Jackson said, one had to go to a specialist, he thought one should know enough about the principles of them all to know whether the principle one had got was the right one or not. There was a case a little while ago of an architect who knew nothing of a certain special construction going to a specialist, and that man made a blunder and the building came down. That architect, he thought, ought to have known whether the principle given him by the specialist was right or wrong. His strong feeling was that they should know all the principles, if they did not know the details.

PROFESSOR F. M. SIMPSON [F.] said he should not like Professor Hamlin to leave the room believing that they all agreed with what Mr. Jackson and Mr. Blomfield had said about general culture and general education. That was the one portion of the curriculum at Columbia University which to his mind was of the greatest value; it was in that one particular essential that it differed from the other Universities in America; and he thought Columbia had shown its good sense and its wisdom in taking the lead and in insisting that all students who were going to take its degree should in the first place go through a two-year course of general education; and, moreover, in requiring students to

pass the entrance examination before commencing the certificate course. He must confess that he was unable quite to follow Mr. Blomfield when he said he would prefer to have a man in his office who was not partially trained. Surely he did not mean that it was absolutely necessary to take one's degree, to go through a full three years? A man who had gone through this two years' preliminary course in one sense perhaps was partially trained, but he was certainly very much better trained than a man who had not gone through that preliminary course at all. America was a country where, possibly more than in any other country of the world except Germany, education was thoroughly understood, and in America they had worked out, and, in his opinion, worked out in a most admirable manner, their scheme of education; and in hearing Professor Hamlin's Paper he was quite willing to confess that he followed and agreed with every single point he brought forward in the curriculum as being absolutely necessary for an architectural student. He hoped that before long they in England would see students taking not a two years' but a four years' technical training before they went into offices. He did not in any way say that a training in offices was not a necessity, because of course it was; but he considered the two years' course of preliminary architectural training at present recommended altogether too short. He had very much pleasure in supporting the vote of thanks to Professor Hamlin.

PROFESSOR HAMLIN: At this late hour I should be bold indeed if I were to undertake to answer all the points that have been raised. The discussion has interested me profoundly, because the very points that have been brought up and emphasised by one and another speaker have been discussed in the United States ever since 1883. On this great question of general culture and professional education and the relations that they bear to each other, the only thing I would like to say with regard to the interesting remarks made by Mr. Jackson (whom it has been a great privilege to listen to, whose name I have known for so many years and whom now it is a great pleasure to see personally) is this: I do not think that at Columbia the problems of general culture and professional education have been confused or muddled, because the two years of liberal education are required as a pre-requisite before beginning the professional education. Thus their functions are kept distinct. A liberal education is recognised as the training of the mind to qualify the student to undertake to tackle and handle the problems which will come in his professional education; and as a matter of experience we have found, both in the school and in the offices of architects, that the best men, the broadest men, the men who grow, the men who develop, the men who become something not perhaps in the first six months but in the first six years, are the men who have had these two years or, as probably the

majority of them have had, four years of liberal training in college before they entered upon the architectural profession. In the second place may I just say this: that these two years of preliminary training before beginning the architectural profession, as I have distinctly said, are not required of every man who receives a University recognition, but only of those who receive that time-honoured degree of Bachelor of Arts or Bachelor of Architecture. Columbia University makes a distinct requirement that all those who receive the B.A. or the Bachelor of Architecture shall have had at least two years liberal education preceding their professional education, if they have had the latter; and they require that only of those who are aspiring to the University degree of Bachelor of Arts or Bachelor of Architecture; and in order that they may recognise the students who, without that preliminary broader disciplinary training of two or more years of collegiate study to acquire the Baccalaureate degree, desire to take up a professional course, they have established a certificate of architecture; and that—if I may make one slight correction or disclaimer of Mr. Jackson's remarks—that has a University recognition. The certificated men to whom he has awarded, and justly awarded, such admiration and such praise, who are among our very creditable and honoured students, receive a distinct University recognition, and they are reckoned as students of the University, but they cannot carry the Baccalaureate degree. That is a distinction which is new in American Universities, and, of course, the extent to which the distinction is recognised will depend upon the reputation and importance of the two classes of men in future, because the distinction is one of comparatively recent years. The liberal education, then, that is required of these students who take a Baccalaureate course in Architecture is intended as discipline to prepare them for the application of their minds to the wide course of subjects embraced in the architectural curriculum. And that has been largely a practical need forced upon us by our encountering among those of our students who have not had such a training, extraordinary difficulty in grasping certain categories of ideas in their studies, in the history of architecture, and in the philosophical ideas which underlie all their studies in design, composition, colour, decoration, and other things. We have found that those men who have had a broader education have been able to express themselves in their architectural work better than the other men. And so they ought to do. General culture will, of course, never make an artist—and that we recognise—but we believe that the men who have the artistic feeling in them will make better artists and will display a more advanced and cultured taste when their artistic training is based upon that foundation. With regard to mathematics, there is just one thing to be said with reference to our American practice—

that in New York, in which the majority of our students find their careers, mathematics, engineering, and all questions turning on mathematics, have assumed in the last few years an importance which perhaps they attain nowhere else; because with the development of steel-frame construction, with the building of tall edifices, with new problems of ventilation, and with new forms of construction in concrete, a whole vast group of new engineering problems has come up which it depends upon the architect largely to solve, and which many are compelled to solve willy-nilly; and it is to these men who have been through a mathematical course in architecture and engineering, rather than the certificated man, that we look for the ultimate solution of those problems. We have repeatedly insisted on the advantage that they would stand in by taking the diploma, when compared with other men, in dealing with experts they call in in consultation, and with the men they employ in the detailed construction of their buildings. In other words, we have been trying to adopt a counsel of perfection and not a counsel of despair; we have been trying to adopt a counsel which will lead to the highest possible attainment of our men, and not one which would furnish them with what will enable them somehow to scratch through their professional future. The question of architectural precedents has been dwelt upon. That is a subject, and a very live one of course, in America; it is one about which I think there is a good deal of misapprehension among our friends in the Old World, and more particularly among our French friends than among our English friends. But will you please to remember that Shakespeare is ours just as much as he is yours, that Queen Anne is ours just as much as she is yours, and that all the precedents of mediæval history are just as much ours as they are yours. Until the Colonies became independent of Great Britain, all the old traditions of the Old World and of Great Britain were ours; we have inherited the blood, the traditions, the language of an ancient people and an ancient civilisation which it is a privilege to us to visit; and we can no more ignore those in our architectural training and in our architectural design than we can ignore them in the language that we speak from day to day. That is why we study American history—that is why we can no more produce architecture without the traditions of the past than you can produce architecture without the traditions of the Middle Ages, or even the classical age. It is a mistaken cry that comes from France, and sometimes from England, that calls upon American architects to create a new architecture out of hand. A new architecture never has been created and never can be created. All we can ask of our American architects is that they shall not be slaves to precedent, that they will awake to their environment as well as their tradition. I have taken enough of your time; I will

leave these other questions with regard to tradition and to apprenticeship, and to quickness of design and handling problems, and the American style of handling material, on all of which you have remarked much. I will spare you from any further disquisition, and will thank you for the most cordial, and friendly, and patient reception which you have given to a brother from over the sea.

MR. R. PHENÉ SPIERS, F.S.A. [F.], writes:—Owing to the late hour to which the discussion on Prof. Hamlin's valuable paper on Architectural Education in America extended, I thought it better not to intervene, but there are one or two statements to which I might add further information. Mr. Richard M. Hunt, the first American who entered the Ecole, became a student in 1846, passed into the first class in 1851, and in 1856 established his atelier in New York. I was, I think, the first Englishman to enter the Ecole in 1859. Matt. Wyatt, the son of Mr. Thomas Henry Wyatt, and an architect named "Robinson," whose identity I have never been able to determine, were before me in Paris in 1858, but neither of them entered the Ecole. The next American was Mr. H. H. Richardson of Boston, whose acquaintance I made "*en loge*" during the examination; not being sufficiently well prepared, however, in descriptive geometry, he failed in his first venture, but entered the school in the following year; he was a pupil of André. Professor (then Mr.) William R. Ware, to the best of my recollection, came to London in the latter part of 1866, where he stayed two or three months before going on to Paris. During this time I was constantly in consultation with him respecting the curriculum of the Ecole des Beaux-Arts at Paris, as also that of the chief polytechnic schools at Berlin, Stuttgart, Munich, and Vienna, all of which I had visited and made notes on during my travels through Germany in 1865. When I entered the atelier of M. Questel in 1858, there were five students in it destined to become *Grand Prix*, viz. Boitte, 1859; Joyau, 1860; Brune, 1863; Pascal, 1864; and Noguét, 1865. There was a sixth student of eminence, M. Gustave Raulin, who just missed the *Grand Prix* on two occasions, but otherwise carried off every other prize in the school. It was to the latter that I advised Mr. Ware to go in order to take lessons both in design and drawing, and although Mr. Ware had already been in practice for some time in Boston, yet anxious to be fully equipped with the principles of design followed in the Ecole, the correct method of projecting shadows at 45° on geometrical drawings, and the testing thereof, he spent about six months in Paris in order to acquire the same. He then returned to Boston and started the Art section in the Massachusetts Institute of Technology, I think, in the latter half of 1867. Since then a very large number of Americans have gone to Paris to complete the education commenced in the Massachusetts College and

in others. Of these many came to me with introductions from Prof. Ware for advice as regards their career in Paris; others again came here after passing through the Ecole or direct from Boston and New York to scheme out tours in England, France, Italy, and Spain; and it has been one of the pleasures and privileges of my life to welcome these American enthusiasts and give them any information in my power. I might add that M. Létang, the first French teacher mentioned by Prof. Hamlin, was a pupil of M. Vaudremer, who since 1874 has been one of our Honorary Corresponding Members. M. Despradelle, the second teacher, was a pupil of my former comrade, M. Louis Pascal.

MR. FRANCIS S. SWALES writes:—

It has been a great pleasure to me to read and to hear the very valuable and interesting Paper by Professor Hamlin, and I wish to thank the Institute for affording me the opportunity of being present upon this occasion; also to offer my congratulations to the Committee which secured this contribution to the literature upon Architectural Education from so eminent an authority upon the subject, so far certainly as it affects the United States. There are one or two points upon which it seems to me that his Paper might be somewhat more explicit, and his point of view somewhat less partisan—or, should I be more accurate in saying, less professorial? In the historical sketch I noted that he omits to mention the earliest period of American architecture proper—when the New York City Hall was built and the designs for the United States Capitol were produced, when certain work of no great pretensions but of excellent character was produced in those parts of the country which, if not at the time actual *States*, were at least American *territory*, and where, as for instance at St. Louis, Detroit, New Orleans, and New York, architects who had been trained in France had emigrated. I am sure that Professor Hamlin agrees with me that several of the best works of the period of which I speak show traces of the influence of the later works of the Louis XV. period in France. I think the French influence never was completely suppressed, notwithstanding the importations of Greek, Gothic, and Victorian from England, which had the effect of turning the practical common sense of the American citizen against all this so-called architecture and the men who produced it. The “battle of the styles” in England left architecture all but dead in America; but, in a wounded and diseased state, it still existed in some of the important works which, for politic reasons, we must join in condemning to-day, but which will be duly credited in the histories still to be written. Hunt’s personal influence was very great, and that of his works hardly less so. I can quite appreciate the enthusiasm which Professor Hamlin expresses for his great friend and former senior professor at Columbia—William R. Ware, who doubtless did

an excellent thing in securing for the first American College of Architecture as professor of design a French-trained architect—the late Eugène Létang. But I am not in accord with the rapid conclusion Professor Hamlin comes to, that Hunt pressed the button and Ware did the rest by organizing the M.I.T. and Columbia courses in architecture; and that all the other courses are practically copies of these two. Hunt’s little atelier was more important for what it attempted rather than for what it accomplished. Among his pupils, besides Messrs. Post and Ware, were Furness and Gambrill. Gambrill was afterwards the partner of H. H. Richardson during his stay in New York, before the latter went to Roxbury. Richardson, like Hunt, had studied in the artistic atmosphere of Paris, and returned to America at about the same time that the M.I.T. was founded, and his mighty influence swept the country like a storm before the M.I.T. rose to notice. In the office of Gambrill & Richardson Mr. Mead worked as a draughtsman before going to Paris to study; McKim also worked there, I think, after he returned from the Atelier Daumet; and later on Stanford White also received part of his training in the same office. From the offices of either H. H. Richardson or McKim Mead and White have come practically all of the leading men of to-day. Except for the influence of Létang at Boston the instruction given in design in the American colleges prior to the time of the Chicago Exposition should not be taken too seriously. It was for the most part neither great nor good, and I know that among many graduates from the M.I.T. itself there existed the feeling that much time was wasted because the stronger men were held back to the speed of the dullest in the class, or else the dullest remained half-instructed. “Don’t waste your time in an American College, but go to Paris,” was what I was told by all except the college professors. During the ‘eighties Architectural Clubs were formed in various cities throughout the United States; there were the Architectural League and the Sketch Club of New York, the Boston Architectural Club, the T-Square Club of Philadelphia, the Chicago Architectural Sketch Club, the St. Louis Architectural Club, Detroit Architectural Club, and others at Cincinnati, Rochester, Buffalo, Pittsburg, Minneapolis, and San Francisco. Monthly competitions in design were instituted among the members, and here the men from Paris and the M.I.T. met those who had only office instruction—not always to the infinite satisfaction of the former. Gradually the younger men sought the advice and criticism of the elder ones, and the pupil system of the Renaissance in Italy was again in existence between the years 1890 and 1894. The prizes in the Club competitions were won regularly by the pupils of certain men, but the name of the teacher did not appear. In 1894, as Professor Hamlin has remarked, the Society of Beaux-Arts Architects

was formed and a competition was held on the lines of those of the Paris school. The competition was held among pupils of recognised schools and ateliers, which latter at the time were not generally known to exist. A separate competition was held among the members of the Architectural Clubs under the same programme. In one competition first place was awarded to a fifth-year student in the M.I.T., and second to a pupil in the Atelier Masqueray. In the Inter-Club competition first place was won by the same pupil of Masqueray, who was also a member of the Sketch Club of New York. Keen interest was taken by the architects throughout the country in this and succeeding competitions. The clubmen or draughtsmen formed ateliers, and obtained the best instruction and criticism that could be obtained locally. Several of the ambitious young men went from western towns to seek positions in New York with the primary object of obtaining instruction in the ateliers of Masqueray, Freedlander, Flagg, Carrère, Hastings, and others. In two of these ateliers, Masqueray's and Freedlander's, preliminary examinations had to be given to prevent overcrowding. These examinations were, I think, the first application to an American school of what might be called the French sieve in America, by which I mean that it was an examination similar to, though not so severe as, the Admission Examination to the Ecole des Beaux-Arts. It was perhaps more like that which has since been adopted at Columbia University, which Professor Hamlin describes as "the only school which requires the preliminary test"—to which I add the question "still existing?" The Architectural Clubs, however, recognised its value at a somewhat earlier date by requiring what was called an "Initiation Sketch." Too much emphasis cannot be put upon the importance of such an examination, which in substance says to the aspirant, either "You possess enough ability to make it worth your while to study the art of architecture," or "You are trying to enter a field where you cannot succeed." The change from the regular "four years' course" to one of indeterminate duration is an adoption of the method of the Ecole; also the system of graduation upon achieving a number of "points." Professor Hamlin does not say whether an age limit is placed upon graduates from Columbia; but one of the advantages of the Paris training is that, as far as the competitions for school honours and attempts to *décrocher le diplôme* are concerned, they must cease at the age of thirty. Can any good result from the substitution of the glamour of "Ph.D. Columbia" at the age, say, of forty, for the "A.D.G. Paris" at thirty? On the

contrary, is there not reason to believe that, without an age limit, we are likely to find many a first-class carpenter spoiled in the making of a second-rate architect possessed of all the culture that Ph.D. is supposed to signify? I cannot but regret that, by inference, comparisons have been drawn between the French and American systems of training, and that the University is held up as the "only gateway to artistic and professional salvation"; that the Paris juries are accused of lack of breadth and a tendency to discourage "originality of conception"—inferences which, if drawn, are quite without foundation. Paris teaches *principles* only—the same principles that are taught the world over—but these are taught more systematically than elsewhere. For the instruction of the student it will be many years—ten, twenty, perhaps fifty, perhaps more—before any American school can possibly equal the Ecole, because it is not yet possible for an instructor to say: "You may see this principle worked out in such and such a building, and also in such another building; after seeing both, make up your mind as to which is the better." There is not yet in any American city a sufficient number of objective examples of great design within a small radius from the atelier where the study is carried on. There is not a sufficient number of ateliers or professors to make competition very keen. There is a dearth of experienced old architects, who have been keen students all their lives, possessed of a little sheltering niche (provided by a wise Government), and thus enabled to devote a large part of their time to the helpful criticism of the work of younger artists. We have no Pascals, no Moyaux, no Daumets, no Vaudremers; nor have we more than a half-dozen architects of equal ability who could or would give up their time as do Redon, Laloux, Girault, Esquié, Bernier, André, Paulin, Deglane, and the host of other men of the same calibre at Paris. If some day we get a Secretary of Education and the Fine Arts—such a secretary as, say, Daniel Burnham might be!—we might hope to see, when they reached old age, such men as Carrère, Gilbert, Hornbostel, Hastings, Howard, Despradelle, Masqueray, Warren, Sullivan, and Eyre giving the most valuable instruction possible to young Americans. At the present rate of progress we may reasonably hope to have, if not as many as at Paris, enough of great works in New York to enable Columbia to take an equal rank with the Ecole des Beaux-Arts as an architectural nursery. The tide to Paris will need no stemming when an American school can afford equal advantages. The time will come; but it is not yet.

TOWN PLANNING.

PAPERS COLLECTED BY THE R.L.B.A. TOWN
PLANNING COMMITTEE.

VIII. PRINCIPLES TO BE OBSERVED IN
LAYING OUT TOWNS AND SUBURBS.

By EDWIN T. HALL [F.]

In compliance with the request of the Secretaries of the Town Planning Committee that I should give my opinion on principles to be observed in the planning of towns and suburbs, I would first point out that regard should be had—

1. To the nature of the geological formation of the site and district. For example, if there be any minerals, such as coal, iron ore, or copper, in the district, then the future of the town and its configuration will be likely sooner or later to develop in relation to the exploiting of the minerals.

2. To the proximity of ports or navigable rivers, where docks, wharves and warehouses, shipyards, workshops, &c., will have to be provided for at some time or other.

These two factors will render necessary extensive provision for housing artisans, labourers, and factory hands, as well as for all the accessories of the resulting extensive trading. Relative concentration of these will be the essential principle of the lay-out. Provision must then be made for adequate open spaces in the suburbs.

3. If, however, the town be a centre for agricultural business—a market for a wide district—then its lay-out will be entirely different, and the provision for public parks or gardens will be restrained.

4. A seaside town or residential centre will require another treatment, where parks will be less required than playing-fields or gardens.

5. Common to all, however, will be highways to other towns, and the principal thoroughfares forming the main routes through a town should be as direct as possible and as straight as contours permit, it being a fundamental principle that the shortest route for traffic is the best. Such roads should be wide, and sixty feet is about the maximum that is necessary and convenient for administrative handling.

6. Where main routes cross, or many roads converge, *and only in such cases*, a circus should be created to denote that it is the intersection of main or many routes. Other cross roads should not be so treated.

These roads, from the architectural point of view, should, as a rule, be only straight where they command some prospect of natural interest or of some public place, monument, or building, and if of any length they should be broken up with open spaces such as "squares" or gardens of symmetrical plan. Otherwise streets should be curved for the display of their architecture.

A town plan containing such streets concentric with and having radial branches to the circus would be interesting.

7. In dealing with London we have a unique problem, a province of buildings containing characteristics of many aggregated towns.

To talk of relaying out London is impracticable, yet the principle of direct main routes should be observed in any replanning, and the aim should be with all roads to open up prospects such as above suggested.

8. The development of suburbs is another matter. Parks or commons should be conserved or created as lungs for every district and for the public enjoyment; but parks can only be rare and far apart. What, however, can and should be provided at frequent intervals on any large area is playing-fields for the residents. It will keep the young in good physical condition and foster neighbourliness and local patriotism. The practicability of this is shown on the Dulwich College estates, where as Chairman of the governors I have taken an active part in giving effect to this last-named phase of development. These estates extend north to south from Herne Hill Station to the Crystal Palace, and east and west from near Camberwell Green to Tulse Hill, an area equal to about one-sixth of inner London. In addition to a previous gift to the public of Dulwich Park (an area of about 70 acres), the governors only a few years ago set apart about 160 acres of land in plots all over the estate of about 8 to 20 acres for playing fields, or to conserve woods. These oases are let to various clubs, and all are regularly filled with players.

The justification for such allocation in all cases is (1) the prevention of overcrowding and the provision of fresh air; (2) the retention of natural beauty; (3) the provision for open-air games; (4) the conservation of other amenities which tend, and will still further tend, to draw residents to the neighbourhood, and (in our special case) also to retain as tenants those whose interest lies in the great educational institutions with which Dulwich is identified; and this justification is applicable to other similar scholastic districts.

9. In the lay-out of residential suburbs the main routes should be, as before suggested, broad, direct, and straight, *and on these, and these alone, should tramways and omnibus routes be permitted.*

Subsidiary roads should be laid out with regard to contours, to the preservation of woods and forest trees, ponds and other natural features, and all tramcar or omnibus traffic should be discouraged or prohibited.

The public seek quiet for their homes and freedom from the noise and dust of the cities or towns in which they work. These are needs almost as pressing and as of much importance as fresh air, and should be jealously guarded.

10. Both in towns and suburbs, churches, schools, municipal buildings, theatres, railway stations, concert and other halls should be on isolated sites as far as practicable for hygienic reasons, for safety from fire, and for architectural effect. The buildings

then become centres of pride and interest—both mentally healthy qualities, tending to encourage art and patriotism not only local but national.

REVIEWS.

ENGLISH LEADWORK.

English Leadwork: its Art and History. By Lawrence Weaver, F.S.A. 40. Lond. 1909. Price 25s. [B. T. Batsford, 94 High Holborn.]

"But thou, thou meagre lead,
Which rather threatenest than dost promise aught,
Thy paleness moves me more than eloquence;
And here choose I."

With this apposite quotation from the famous

Casket Scene the author of this valuable and beautiful monograph sets out gaily to discourse on his subject in over two hundred pages, which have everything about lead except its common reproach of dullness.

It has always seemed to the writer that the rivals whose election falls foul on gold and silver make out excellent cases for themselves, and that there is an air of casuistry in the usual commentator's justification of the assessor's award in this metallic competition.

However that may be, we too have chosen pale lead, having no more to do with gold and silver than to deal out one part of the former and five of the latter in lawful current coin to the specified publisher whereby to gain the secret writ and illuminated within these lead-coloured boards.

It is a common piece of affectation to ignore the value of the literature of architecture and assert that only plates are requisite. We are much mistaken, however, if the

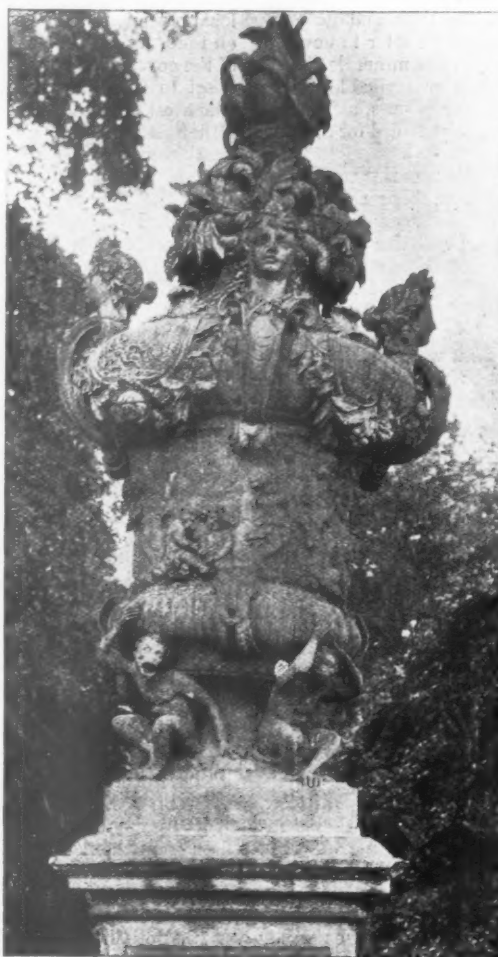
present work can be so cavalierly treated. The author has a pleasant way of pertinent quotation, often from ancient and half-forgotten sources, that so enlivens a really serious and scientific exhaustion of the subject that one can imagine many readers who will fail to realise the toilsome and expensive labours and researches he has so successfully embodied in this book.

His fancy delights in such feats as that of arousing Mr. Samuel Pepys, M.A., F.R.S., from his leaden shroud to accompany him on a jaunt by way of an L.C.C. steamboat down the river to appreciate the loss that ten-storied warehouses have inflicted on London's sky-line since his day. One can imagine the old rascal giving reluctant attention to his guide,

while his eyes concern themselves with the passengers, more interested if he could chance on a rival to those beauties which it was the affair of his acquaintance Sir Peter Lely to immortalise.

The consequence is that, turning over the book to look at the pictures, the reader finds himself speculating what the author has to say on this or that example. See, for instance, how, on page 178, he makes a foolish statue ashamed of herself.

The book is divided into sections dealing with fonts, rainwater pipe-heads, cisterns, spires, steeples, and domes. It then touches the sculptural and garden use of lead in sections dealing with statues and vases. This part is very fully illustrated, and contains a very interesting account of the old lead workers' yards, whence so many of the existing garden figures were obtained. Finally there is a chapter on sepulchral leadwork and various minor and interesting uses of the metal, leading up to one on modern work,



THE GREAT VASE AT MELBOURNE, DERBYSHIRE.
(Cast in lead by John van Nost in 1706.)

which shows how much progress has been achieved in the present-day revival of the art.

The author looks to Professor Lethaby's little work on leadwork (1893) as having reawakened the subject, and gives full acknowledgment also to Mr. Frank Troup's labours in the actual teaching of leadwork craftsmanship.

One can well remember the first appearance of "Lethaby's Leadwork," as it came to be called. It was a brilliant reconnaissance in force of the field, and bears the relation to the work before us that the early invasions of Caesar in Britain bore to the full Roman occupation. There is now a regular Roman wall in the form of a minute bibliography of some seven pages of all that has been written on lead by which to consolidate the conquest and warn off the unprepared outsider.

Looking through this list one is surprised to see how little has been recorded and written on the architectural use of leadwork. Lead suffers from the great drawback of its ready conversion into cash or bullets. It is not easy to keep the pipes and flashings complete in an unoccupied house, and there is point in the old gibe that "you never see a plumber run without he has a piece of lead under his coat." So that it is easy to imagine how much has disappeared into the ever-handy melting-pot.

Our author, however, is not carried away by his subject. By parallel passages from Evelyn and Pepys he dismisses Mr. Starkie Gardner's too ingenious suggestion that Nonsuch can be claimed as leaden architecture. One is grateful for this idea if it encouraged Mr. Gardner to work out

that interesting leaden bridge at Charing Cross (fig. 405) which is so well known.

Mr. Weaver gives a reproduction of Sir Charles Nicholson's brilliant sketch, fig. 406, of a design for a leaded church which has already appeared in this JOURNAL.

There is an undoubted field for design in lead in many situations where its special qualities would have so much value. On the all-important question of the plumber to carry out this work the author has in his introduction, page xiv, the following passage:—

"Despite, however, much precept from those who seek to raise the level of the crafts, very small is the number of people who make pipe-heads of merit, and this complaint is true of all leadwork which has artistic possibilities. The fault lies rather with the average plumber than with the average architect. There is a clear enough call for good design and for a return to sound and traditional methods, but nearly all the 'ornamental' leadwork done at technical schools is unspeakably bad. In more than one of the books on plumbing which have won a deservedly high place, hints on 'ornamental' work are given by instructors who are past-masters in technical mysteries. Most of the examples used to mould the decorative sense of the student are wholly bad. Until the authorities of technical schools realise that the craft of leadwork must be taught by one who is an artist as well as a technical expert, these grievous productions will be thought by the rising generation of plumbers to be 'artistic.' There are, of course, honourable exceptions." Pro-



LEAD FIGURE OF WILLIAM III. AT HOGHTON TOWER, LANCASHIRE.



WATER LEADWORK, CHARWELTON CHURCH (CHRISTOPHER CARTER).

fessor Lethaby, Mr. F. W. Troup, and others have struggled manfully to fill London County Council students with a wise spirit, and individual architects have sought to instil into the mature plumber some right feeling for his material. In practice, however, if good leadwork is wanted, the few firms who specialise are almost the only sources of supply. The Worshipful Company of Plumbers has done as much as, if not more than, any City Company to support and improve the craft it represents. If the Company would devote to some instruction in artistic righteousness a tithe of the energy which it gives to improving technical conditions a good and greatly needed work would be done."

Similarly to the immediate point is the protest against tampering with the leaden casing of our old spires and steeples, page 138:—"During the latter part of 1907 the lantern needed re-leading, and the opportunity was taken to remove the twelve flaming vases which, as the illustration shows, formed so notable a feature. They were of wood covered with lead; the wood had rotted; restoration was certainly needful. The failure to replace them is, however, serious. They were a characteristic feature of Wren's design, and the plea of lack of money for work sounds absurd in Lombard Street."

And again, on page 139, relating to St. Nicholas Cole Abbey:—"The loss of interest caused by the re-leading of the steeple is very marked. It is certainly a point to be insisted upon that, in any restoration, repairs only should be permitted so that the original plumbing method is scrupulously followed. The lead should always be re-cast in the sand, as is the practice at Westminster Abbey, and no modern milled lead and wooden rolls, etc., should be used."

The appreciation that the author brings to the work of Sir Christopher Wren is shown by the following passage, page 115:—"He created within

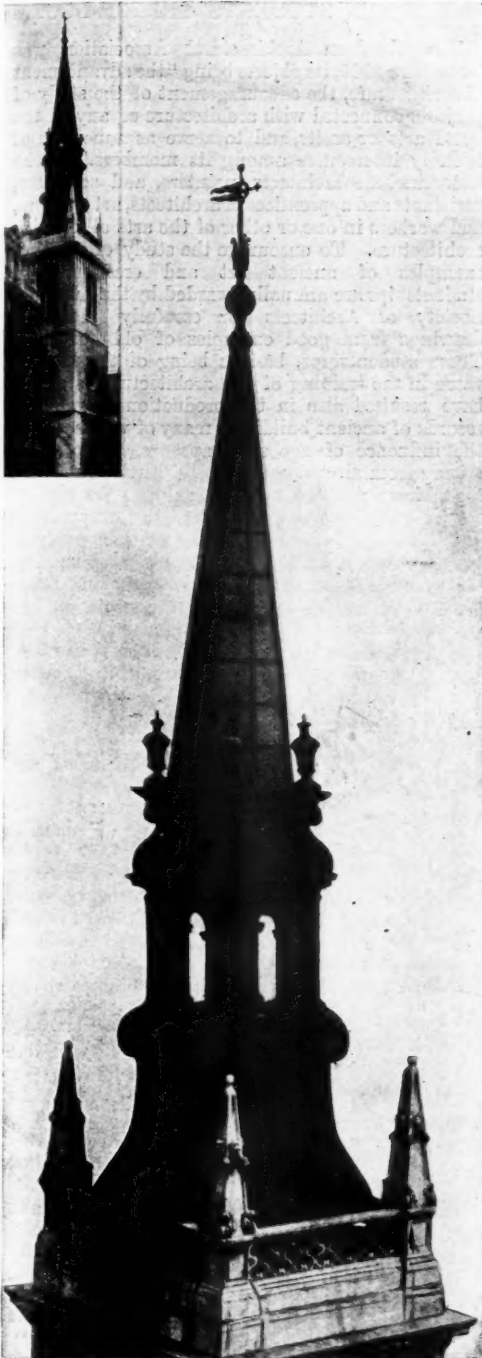
the square mile of the City more forms of steeples than all the architects of the Middle Ages, and if, as was inevitable, some pay the penalty of rash experiment, others make an assured success. The attempt to set out the line on which Wren proceeded is hampered at every turn by lack of evidence. We have little clue as to some of his more curious designs, but these were probably less arbitrary in their creation than may appear to us in the absence of such indications.

"That Wren was a close student of his predecessors in the art of building is easily proved, but his debt to mediæval sources is not generally realised. Imperfections of detail ought not to obscure an appreciation of the fact that his grasp of Gothic principles is rarely at fault. There is much in Wren's work otherwise inexplicable which may be traced to the wide catholicity of his mind. It is not only difficult but impossible to point to another architect of his epoch who, with anything approaching his success, seems so nearly to have reconciled the opposing ideals of classicism and romanticism. To the union which he thus achieved must be ascribed the marvellous picturesqueness which, united with imposing mass, makes St. Paul's the unique masterpiece amongst Renaissance churches."

So far as the writer knows, the technical details of the spire construction and leading of Wren's steeples, see pages 138-140, are new and of a distinct value, and are the evident outcome of toilsome personal journeys up the pigeon-haunted towers of the City churches.

True principles are not much in favour nowadays, and as regards the application and use of lead, a survey of the work illustrated seems to inculcate a wise catholicity.

Lead is certainly something more than cheap bronze. At the same time, it is a mere puritanism



LEAD STEEPLE, ST. AUGUSTINE'S, WATLING STREET.

that would tie the art to a narrow range of tinning, bossing and perforating effects, and rule out most of those lusty larks which the cheapness and facility of the metal seem to have encouraged. The superiority of lead in our damp climate over sugary marble or mossy stone for garden work admits of no dispute. Happy should we be if clients could see that first cost is here truly last cost and release us from the cast-iron gutter and pipe oppression. There is a considerable reckoning to be faced shortly, thanks to the increasing competition which every day makes these pipes and gutters more paper-like in substance.

The present-day plumber is so hypnotised by his registration, examination, and by-law diet that he has lost all interest in the finer aspects of his craft. You may find a man whose pride is in the perfection of his wiped joints aghast at the idea of working out a rainwater head or panel in piercings and ornaments of his own casting. Education so cramped must be radically at fault, and we hope that a wide circulation of this comprehensive book amongst clients, architects and craftsmen will stimulate a real revival of the art of leadwork.

ARTHUR T. BOLTON [F.].

MODERN SANITARY ARRANGEMENTS.

The Drainage of Town and Country Houses: a Practical Account of Modern Sanitary Arrangements and Fittings. By G. A. T. Middleton [A.], author of "Building Materials," "Modern Buildings," "Stresses and Thrusts," &c. New and enlarged Edition. Illustrated by 8 Plates and 105 Diagrams. 8s. Lond. 1908. Price 4s. 6d. [B. T. Batsford, 94 High Holborn W.C.]

Some few months ago a second and enlarged edition of the above work was published. The author includes a large subject in a small compass, but the letterpress is most concise, and as the illustrations, although necessarily small, are very clear, the volume forms a valuable addition to the text-books on hygiene. Although the title suggests that the book treats of the sanitation of houses only, the author includes drainage schemes for other buildings—viz., a restaurant, school, town shop, &c. These illustrations are useful, as Mr. Middleton, in the early portion of his book, deals to some extent with the principles of drainage, and shows later how these principles, simple as they are, can be applied to all classes of buildings. There is no subject allied to our profession (excepting perhaps perspective) on which so many volumes have been written calculated to bewilder rather than to enlighten the student. The perusal of such books too frequently confirms the reader's opinion that the subject is one to be left in the hands of the sanitary engineer entirely. He learns that in certain positions traps are necessary, and that disconnecting chambers are advisable—in fact, required by the by-laws. Mr. Middleton deals with sanitation as practised to-day, and on lines generally accepted as those best adapted to modern require-

ments. It is only when such principles have been learnt that one is able to form an opinion on "trapless drainage" or the "ill effects of disconnecting chambers." Such subjects have recently been keenly discussed by professional men whose arguments cannot be lightly disregarded, however much one may disagree with them. As regards sanitary fittings, Mr. Middleton has wisely confined himself to illustrating a few only of the best types of each kind. The drainage scheme for a country house (Plate A) is a good one, but it necessitates somewhat long and costly lines of drainage for the rainwater. The whole of this is conveyed into two intercepting chambers adjoining the disconnecting chamber. This arrangement is not advantageous unless it is designed to keep the one trap only on each line of drainage charged by the waste of a fitting frequently in use, such as a lavatory. From the illustrations it appears that in times of drought the traps would become ineffective and the soil drains be ventilated through the open grids. The system shown would be more applicable if the rainwater had to be collected for use instead of, as in this particular case, being run to waste in the sewer. In a future edition it might be advisable for the author to give two additional plans of drainage schemes for the same residence, one showing the rainwater pipes trapped at the feet and discharging into the general system, and another showing the fresh water kept distinct and discharging into a storage tank for use. About fifteen pages are devoted to the important question of sewage disposal from isolated buildings where a public sewer is not available. The author broadly outlines the main points of bacteriological treatment. This portion is necessarily very condensed, but gives a good general description of the methods employed for obtaining an almost pure effluent from crude sewage. A reprint of the by-laws relating to house drainage as issued by the Local Government Board is included, but, as the author points out, these are only suggestive, and any District Council can make by-laws which become operative after the approval of the Local Government Board. This leads to a lack of uniformity, and one frequently finds that the by-laws of two adjoining districts are quite different and dissimilar in their requirements.

The work concludes with a chapter giving the usual heads of a typical sanitary report and a brief description of special points to be noted whilst engaged in this work. A good index completes the volume.

R. STEPHEN AYLING [F.].

Mr. Geo. P. Bankart is issuing a beautifully printed little booklet giving photo-illustrations of executed examples of cast and wrought leadwork. The work includes some very pleasing designs for rainwater heads, piping, and gutters; parapet sheeting; garden vases, figures, cisterns and fountains; window-boxes; tablets, sundials, &c.

ABERDEEN STUDENTS' SKETCH-BOOK.

The Aberdeen Architectural Association was founded in 1905, its objects being "the advancement of architecture, the encouragement of the study of subjects connected with architecture or any of the allied arts or crafts, and to serve as a medium of friendly intercourse among its members." The latter include architects, painters, and sculptors, assistants and apprentices of architects, art teachers, and workers in one or other of the arts allied with architecture. To encourage the study of existing examples of ancient art and craftsmanship studentships are annually awarded by the Aberdeen Society of Architects for carefully measured drawings from good examples of old buildings. These studentships, besides being of the highest value in the training of the architectural student, have resulted also in the production of valuable records of ancient buildings, many of which, under the influence of age and exposure, the changes arising from altered conditions of life, and in some cases from indifference and neglect, are rapidly losing their original character, or disappearing altogether. To provide a means for the preservation of these and other records of architectural value in a permanent form for study and reference, the Aberdeen Architectural Association has started a *Sketch-book*, the first number of which has just been issued under the editorship of Mr. Geo. G. Irvine [A.], who has charge of the classes in architecture at the Robert Gordon College, Aberdeen. In a letter which accompanied a copy of the *Sketch-book* presented to the Institute, Mr. Irvine says: "It is hoped that its publication will assist in realising the aims with which the Association was founded, and that it may help towards the completion of that record of buildings of historic and architectural value which is so much to be desired at the present day. Every endeavour has been made to ensure accuracy and thoroughness in the representation of the various subjects illustrated, and to express their value to the architect, antiquary, and local historian." The Association is heartily to be congratulated on its venture. The drawings are good, useful, and thoroughly student-like, and the various subjects well and faithfully rendered. Large folio in size, somewhat resembling the similar publication of the London A.A., the drawings are admirably reproduced and printed, and the work altogether forms a very creditable production. The cover, with its lettering, was specially drawn for the Association by Mr. Arthur Payne, who has done so much to revive the art of good lettering in the district of Aberdeen. The *Sketch-book* consists of fourteen plates—five are devoted to Tolquhon Castle, Aberdeenshire: an interesting and very timely record, for the building is fast crumbling to ruin. Other subjects are the church of St. Ternan, Arbuthnott, Kincardineshire (four plates); Robert Gordon's Hospital; Old House, Hospital Court,

Gallowgate; Old House, Shiprow; the old Grammar School, Aberdeen; Chairs from Trinity Hall, and some Lead Rainwater Heads—the examples given of the latter are all from houses now demolished. The value and interest of the graphic records are considerably enhanced by descriptive notes printed in handsome type on separate sheets—a very commendable feature which might be imitated with advantage by other publications of this kind. The price of the work has been fixed at the lowest sum necessary to cover the cost of production—viz. 5s.; post free 5s. 6d. Mr. Irvine, whose address is 231A Union Street, Aberdeen, will be glad to receive orders for the first number.

CORRESPONDENCE.

THE R.I.B.A. SCALE OF CHARGES.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I notice on perusing the above in the issue of the JOURNAL for the 4th December inst. that an error has crept into my letter dealing with “(2) The measuring and valuing additions and omissions,” which should have been rendered $2\frac{1}{2}$ per cent. and 2 per cent. respectively, and not $1\frac{1}{2}$ per cent. and $1\frac{1}{4}$ as therein stated. Apologising for the oversight,—Yours faithfully,

A FELLOW.

To the Editor JOURNAL R.I.B.A.,—

SIR,—I have nothing to say against the Resolution which has been carried with regard to the interesting Institute publication entitled “The Professional Practice as to the Charges of Architects.” But I think many of us would be glad to foresee the utility of mere amendment. Probably there will be reams of statements of difficulties which members have encountered in the use of the old document in response to a circular invitation. When these have been investigated and reported upon at an early date there will be much labour expended, doubtless, in revision of the old statement. But will the revision be convincing? An amended statement may still be open to the objection, reasonable or unreasonable as it might be, that it is drawn up by architects themselves, though, of course, the Institute *imprimatur* should give it weight.

It will scarcely be a statement of prevailing practice in the profession if framed with the view of securing adequate remuneration, nor will it be likely to acquire this distinction unless it is generally adopted by members of the profession.

It would seem, therefore, important that the steps which can be taken to make a scale authoritative in actions at law should be generally known and understood.—Yours faithfully,

HARRY SIRR [F.].

THE CHURCH ORGAN.

To the Editor JOURNAL R.I.B.A.,—

SIR,—Mr. Statham quotes the Committee of eminent Musicians, Clergy, and Architects (Report 1891) in support of a west-end position for the organ, with the choir in the nave. His critic, Mr. Cliffe, regards this arrangement as impracticable for parish churches, and favours another contention by Mr. Statham—a central position for the organ on a screen: in place of the Rood, apparently!

Surely the pre-eminent Committee, after considering all possible arrangements, recommended most strongly of all the west-end position for organ—and choir. Why take the organ west and leave the choir stranded high and dry in some other part of the church, breaking the musical unity?

There is no authority for a choir, as usually accepted, in the chancel or nave of ordinary parish churches, and the adoption of the eastern position has brought destruction to many a beautiful chancel during the past sixty years. The mammoth organs, blocking up chancel aisles and chantry chapels, or boxed up in confined chambers, ugly excrescences, followed the misplaced voices.

The only thing urged in favour of it all is that the choir “look nice.” Some of us prefer the look of the sanctuary without them.

With a west-end arrangement of organ, orchestra, and choir, I have an intimate experience of many years in several churches, and can vouch for the result tending to strong congregational singing, a devout choir, and a reverent ritual in the sanctuary.

So far, I have found that a low west gallery for choir, orchestra, organ console, and (if need be) conductor, with the main part of the organ spread out on the west wall above, and the choir vestries under the gallery, is good. The bellows &c. of the organ have to be properly housed and carefully worked out, in conjunction with an open-minded organ builder, by an architect with a respect for music, if not musically gifted.

A capable man as master of the music is essential—with more than mere musical knowledge. In some places this is a difficulty, but the lack of him is rather worse in the chancel.

So far, my experience has been fortunate, and my privileges great, whether with the leaders of the music or in the congregation: and amongst the benefits I have known, ladies' voices and instruments other than the organ, such as strings, brass, and even drums, can be brought into the services of the Church without grotesque effect.

ERNEST C. SHEARMAN [A.]



9 CONDUIT STREET, LONDON, W., 18th December 1909.

CHRONICLE.

THE NOVEMBER EXAMINATIONS.

The Preliminary.

The Preliminary Examination, qualifying for registration as *Probationers R.I.B.A.*, was held in London and the undermentioned provincial centres on the 8th and 9th November. Of the 123 candidates admitted, claims for exemption from sitting for the Examination were allowed to the number of 35. The remaining 88 candidates were examined, with the following results:—

| District | Number Examined | Passed | Relegated |
|------------|--------------------|--------|-----------|
| London | 46 | 26 | 20 |
| Birmingham | 4 | 3 | 1 |
| Bristol | 7 | 5 | 2 |
| Cardiff | 3 | 2 | 1 |
| Glasgow | 3 | 2 | 1 |
| Leeds | 6 | 5 | 1 |
| Manchester | 16 | 8 | 8 |
| Newcastle | 3 | 3 | 0 |
| | 88 | 54 | 34 |

The 89 passed and exempted candidates, who have been registered as Probationers, are as follows:—

ACKROYD: Samuel William; Duke Street, Elland, Yorks.
 ADAMS: Walter Alwyn Cole; 13 Glazbury Road, W. Kensington.
 ALISON: Walter; c/o McKinnin, 134 W. Graham Street, Glasgow.
 ANGLIN: Samuel Norman; Temple Acre, Harrop Road, Hale.
 APPERLY: Eric Langton; "Craigie House," 56 Lancaster Gate, Hyde Park, W.
 ARTHUR: John Llewellyn; Hilton, Llandaff.
 ASHBOLT: John Sidney; 10 Exmoor Road, Southampton.
 BAGENAL: Philip Hope Edward; 3 More's Garden, Cheyne Walk, S.W.
 BELL: Charles; 4 Baxter Park Terrace, Dundee.
 BETTS: Albert William; 630 Radford Road, Old Basford, Nottingham.
 BHEDVAR: Sohrab Keikhosru; 38 Brixton Hill, S.W.
 BLYTH: Charles Kydd; 206 St. Paul's Road, Highbury, N.
 BODDINGTON: Frederick Eckersley; Government Architect's Office, Brisbane.
 BROADHEAD: Frank Arthur; 31 Douglas Rd., Nottingham.
 BROWN: Percy Norman; Hawthorn Bank, Holmfirth, nr. Huddersfield.
 COBB: Robert Stanley; Romney, Shortlands, Kent.

COOK: Charles Reginald; "Piersfield," 102 Manor Road, Wallington, Surrey.
 COURT: Harold William; "Coningsby," Hyde Vale, Greenwich, S.E.
 CRABTREE: Enos James; "Sandsfoot," Southbank Road, Southport, Lancs.
 CROSSLAND: Harry Ewart; Station Road, Sutton-in-Ashfield, Notts.
 CURWEN: John Spedding; 26 Highgate, Kendal.
 DALY: Thomas; 8 Hagg Crescent, Johnstone, Renfrewshire, N.B.
 DEAR: Frank Twydale; 210 Lambeth Road, S.E.
 DOD: Harold Alfred; 24 Liverpool Road, Birkdale, Lancs.
 DONALDSON: Benjamin; 238 Chillingham Road, Heaton, Newcastle-on-Tyne.
 DONGER: William James; 16 St. Cross Road, Winchester.
 EDMUNDS: Hywel Carey; 26 Cradock Street, Swansea.
 EDWARDS: Sidney James, B.A. Cantab.; The Grange, Royston Park, Pinner.
 FARR: Reginald Percy; c/o Hongkong Shanghai Bank, Lombard Street.
 FLETCHER: Donald; Kirk House, Uttoxeter, Staffs.
 FOX: Walter Ernest; Morton, Gainsborough, Lines.
 GODWIN: William Hubert; 6 Second Avenue, Selly Park, Birmingham.
 GRATTON: Stacey; 30 Devon Square, Newton Abbot.
 GREGORY: Hubert; Woodburn, Ben Rhydding, Yorks.
 HAMILTON: Thomas Cressey; 74 Station Road, Wallsend-on-Tyne.
 HARMAN: Stanley William; Brookdale, Manor Road, Teddington, Middlesex.
 HEMM: Gordon; Ash Lea, 12 Manchester Road, Heaton Chapel, nr. Stockport.
 HICKMAN: Ernest James; 134 Sherlock St., Birmingham.
 HICKSON: Harry Armitage; "Ivy Dene," Netherton, nr. Huddersfield, Yorkshire.
 HOLROYD: Frank; Laurence Villa, Woodlesford, nr. Leeds.
 HORTON: Alfred William; 134 Whitaker Road, Derby.
 HOTEN: Sydney; Westbourne, Stonebroom, nr. Alfreton.
 HUNTER: Arthur; Ingram House, Stockwell Rd., S.W.
 JAMES: John Alfred Barnes; 13 Plough Terrace, Port Talbot.
 JONES: Rees; Liverpool House, Paremmain, Carmarthen.
 KNIGHT: Walter John; 20 All Saints' Road, Gloucester.
 LE GRICE: Clifford Herbert; "Enfield House," Marina, Lowestoft.
 LENNOX: Hugh; Milton, Ashgrove Street, Ayr.
 LEWIS: Glyndwr Morrison; 37 Highbury New Park, N.
 LIPSCOMB: Sidney George; 48 Chapel Street, Edgware Road, N.W.
 LITTEN: Horace Edgar; Highmeade, Pope's Grove, Twickenham.
 MACPHAIL: Duncan St. Clair; 40 Warrender Park Terrace, Edinburgh.
 MARCH: John Ewart; West Street, Axbridge R.S.O., Somerset.
 MARCUCCI: Dario; 11 Granville Road, Southfields, S.W.
 MOORE: Joseph; Sunny Bank, Beighton, nr. Sheffield.
 MOORSOM: Raisley Stewart; Bedales, Petersfield, Hants.
 MORLEY: Cyril Savage; 44 Bromley Road, Beckenham.
 MOSCROP: William Noel Jobson; Ashcroft, Darlington.
 NORRIS: Walter; Chamber Mount, Chamber Rd., Oldham.
 ORME: Thomas John; 106 City Road, Birmingham.
 PARKES: Edgar Mainwaring; 180 London Road, Northwich.
 PEERMAHOMED: Abdulla Bhanji; Christ's College, 4 St. Germans Place, Blackheath, S.E.
 PROFFITT: George Wallace; 9 Longley Road, Walkden, nr. Manchester.
 ROARTY: Stanislaus; c/o Geo. W. Durrell, Esq., 14 Castle-reagh Street, Sydney.
 ROBINSON: Graham John; 39 Catherine St., Salisbury.

ROGERS: Walter; 64 Market Street, Eastleigh.
 RUSSELL: Andrew Laurence Noel; Glen Douglas, Jedburgh, Roxburghshire, N.B.
 SAWER: John Seymour; "Summerfield," Westerfield Road, Ipswich.
 SHANKS: Thomas Edwin Thornton; Mount Beacon House, Landsdowne, Bath.
 SIMMONS: Cecil George; 23 Oppidans Road, Primrose Hill, N.W.
 SMITH: Arthur; West Hill Villa, West Hill Road, Luton, Beds.
 SOMERFORD: Thomas Retford; 59 St. James's Road, Brixton, S.W.
 STEVENS: Thomas Tearle; 117 Farnham Road, Bury St. Edmund's.
 TAYLOR: John Alexander Chisholm; The Manse, Waterhead, Oldham.
 TEMPLAR: William Richard; 102 Aldborough Road, Seven Kings.
 TEULON: Cedric Maurice; Southbridge Lodge, Croydon.
 THOMAS: George; 80 Hulton Street, Moss Side, Manchester.
 THOMAS: William Norman; 236 Nantwich Road, Crewe.
 TRISCOTT: Harris Stephens; 42 Hill Park Crescent, Plymouth.
 WALKER: Harold Frederick; "Fair View," Little Heath, Potter's Bar, Herts.
 WELCH: Henry; 30 Forbes Road, Edinburgh.
 WEST: Archibald John; 150 Birkin Avenue, Nottingham.
 WILLIAMS: Frederick Ernest; 15 Tennyson Road, Small Heath, Birmingham.
 WILLIAMS: John Gerrard; 27 All Saints' Road, Clifton, Bristol.
 WILLIAMSON: Henry Roehead; 19 Morningside Place, Edinburgh.
 WINCH: Kenneth Mark; 16 George St., Richmond, S.W.
 WINTER: Ronald; 26 Maryfield Terrace, Dundee.
 WOODROFFE: Norman Frederic; 51 Lincoln's Inn Fields, W.C.
 WORTHINGTON: Charles Edmond; 21 Upper Phillimore Place, W.

The Intermediate Examination.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and at the undermentioned provincial centres on the 8th, 9th, 11th, and 12th November. One hundred and eight candidates were examined, and the results are reported as follows:—

| District | Number Examined | Passed | Relegated |
|------------------|-----------------|--------|-----------|
| London | 69 | 35 | 34 |
| Bristol | 5 | 2 | 3 |
| Cardiff | 4 | 2 | 2 |
| Glasgow | 3 | 2 | 1 |
| Leeds | 10 | 4 | 6 |
| Manchester . . . | 11 | 5 | 6 |
| Newcastle . . . | 6 | 1 | 5 |
| | 108 | 51 | 57 |

The names and addresses of the successful candidates are as follows, in order of merit, as placed by the Board of Examiners:—

[The initial "P." signifies *Probationer R.I.B.A.*]

KNIGHT: Frank Wardel [P. 1906]; 9 Wellington Square, Chelsea, S.W.
 RUTTER: William Arthur [P. 1906]; 1 Princes Street, Cardiff.
 SELWAX: Edward Ralph Douglas [P. 1905]; 38 Grafton Square, Clapham, S.W.

SCOTT: Bernard Wardlaw Habershon [P. 1905]; 125 Rodenhurst Road, Clapham Park, S.W.
 HOLLAND: Harry Dawber [P. 1901]; 349 Spring Bank, Pemberton, Wigan.
 ROBINSON: Harold Layton [P. 1906]; 19 Scarborough Road, Leytonstone, Essex.
 BROAD: Kenneth Stephen [P. 1908]; 166 West Hill, Putney, S.W.
 MOIR: David James [P. 1903]; 95 West Graham Street, Garnethill, Glasgow.
 HENDRY: Harry Duncan [P. 1908]; 60 Herongate Road, South Wanstead, Essex.
 WEST: James Grey [P. 1901]; H.M. Office of Works, Cardinal House, Carlisle Place, Westminster, S.W.
 HOUSTON: William Wylie [P. 1906]; 110 Fitzroy Avenue, Belfast, Ireland.
 MORLEY: William Brighten Rise [P. 1907]; 57 Christ Church Road, Norwich.
 VOELKEL: William [P. 1907]; 21 Denton Terrace, Castleford, Yorks.
 GUNTON: William Henry [P. 1909]; Finsbury House, Blomfield Street, E.C.
 PEDLEY: Ernest William [P. 1907]; Atherton House, Grafton Road, Derby.
 HAGUE: Horace Vincent De Courcey [P. 1908]; "Roslyn," Bloomfield Road, Blackpool.
 MACMILLAN: Alec Lowe [P. 1901]; 85 Cambridge Road, Southport, Lancashire.
 KNYVETT: John Seymour [P. 1904]; 51 Hagley Road, Edgbaston, Birmingham.
 SHEARS: Reginald [P. 1906]; 38 Anerley Road, Westcliff-on-Sea, Essex.
 MILLER: Stanley Russell [P. 1907]; 112 Avenue Road, Acton, W.
 OWEN: Albert Henry [P. 1907]; 71 Marlborough Road, Upper Holloway, N.
 KNOTT: Arthur John [P. 1908]; "Triscombe," Neva Road, Weston-super-Mare.
 NIGHTINGALE: Frederick Bayliss [P. 1906]; 47 West Side, Wandsworth Common, S.W.
 BRADLEY: Harry [P. 1904]; 11 Handsworth Road, Blackpool.
 CLARK: Walter Llewellyn [P. 1905]; The Hampden Club, Phoenix Street, N.W.
 COLBECK: Henry [P. 1907]; 13 Milton Place, Halifax.
 COWPER: Robert Stephen [P. 1902]; 23 St. Dunstan's Road, West Kensington, W.
 DAVIES: Joseph Charles Gladstone [P. 1904]; Tanyrallt, Morriston, Glam.
 EVANS: Charles Glynn [P. 1904]; 13 New Street, Neath.
 FURNISS: Richard William [P. 1905]; 14 William Street, Loughborough.
 GILKS: Stephen Langton Clowes [P. 1902]; 9 Carlton Road, Putney, S.W.
 HALL: Montagu Ashley [P. 1905]; Newport Cottage, Lincoln.
 HALLETT: George Farncombe [P. 1907]; 152 Eastern Road, Brighton.
 HARRISON: Samuel [P. 1904]; Aldersyde, Linthorpe, Middlesbrough.
 JESSOP: Bernard [P. 1907]; Bank Cottage, Kimberley, Notts.
 KNAPP-FISHER: Arthur Bedford [P. 1907]; 2 Strathmore Gardens, Kensington.
 LAY: Cecil Howard [P. 1904]; Aldringham, Saxmundham Suffolk.
 LOWRY: Robert [P. 1908]; Carlton House, Bishop's Road, Bayswater, W.
 MARTIN: Cyril Frederick, B.A. Cantab. [P. 1908]; Eyton, Farquhar Road, Edgbaston.
 NEWHAM: Theodore Nelson [P. 1907]; Rockholme, Hastings.

PICKMERE: Travers [P. 1903]; 3 East Albert Park, Liverpool.
 REID: Claud Boileau; 307 Vauxhall Bridge Road, S.W.
 RYLATT: Arthur [P. 1904]; Sculcoates House, Beverley Road, Hull.
 SMEED: Charles Alfred [P. 1905]; 24 West Ham Lane, Stratford, E.
 SURVEYOR: Merwanjee Framjee [P. 1908]; 19 Craven Street, Strand, W.C.
 VEY: Arthur Edwin [P. 1905]; 48 Thornton Avenue, Chiswick, W.
 WALKER: Richard [P. 1907]; 307 Vauxhall Bridge Road, S.W.
 WELCH: Herbert Archibald [P. 1907]; 47 Albert Street, Regent's Park, N.W.
 WHITEHEAD: Thomas Gustavus [P. 1908]; 1 Dunheved Road North, Croydon.
 WILKS: John [P. 1904]; 62 Monton Street, Moss Side, Manchester.
 WYLDE: Frederick Charles [P. 1905]; 2 Bulkeley Road, Norbury, S.W.

Exemptions from the Intermediate Examination.

The following candidates, who had attended the architectural courses and obtained First-class Certificates at the schools of architecture of the institutions mentioned against their names, were granted exemption from sitting for the Intermediate Examination, and have been registered as *Students R.I.B.A.* :—

CABLE: Robert William [P. 1905]; 11 Acre Lane, Brixton, S.W. [Architectural Association.]
 CLARKSON: George Flint [P. 1905]; 43 Holland Road, Kensington, W. [Architectural Association.]
 DOD: Harold Alfred [P. 1909]; 24 Liverpool Road, Birkdale, Lancashire. [Liverpool University.]
 FAREY: Cyril Arthur [P. 1906]; 11 King's Gardens, West End Lane, N.W. [Architectural Association.]
 GRAEME: Alan Vincent Sutherland [P. 1906]; 32 Vincent Square, Westminster. [Architectural Association.]
 HAKE: Guy Donne Gordon [P. 1904]; 9 Park Mansions, South Lambeth Road, S.W. [Architectural Association.]
 HETT: Leonard Keir [P. 1904]; Hapstead, Ardingly, Sussex. [Architectural Association.]
 HOME: Geoffrey Wyville [P. 1905]; 99 Gutterstone Road, West Kensington, W. [Architectural Association.]
 JONES: Thomas Anthony [P. 1908]; Exton Grove, Bishop's Waltham, Hants. [University College, London.]
 LEVY: Arthur Louis [P. 1905]; 25 Netherhall Gardens, N.W. [Architectural Association.]
 LODGE: Thomas Arthur [P. 1906]; "Warlies," Arnison Road, E. Molesey, Surrey. [Architectural Association.]
 MATTHEWS: Bernard Frank [P. 1905]; Ingram House, Stockwell Road, S.W. [Architectural Association.]
 PIGOTT: Richard Mountford [P. 1905]; 1 Earlsfield Road, Wandsworth Common, S.W. [Architectural Association.]
 PRYNNE: Charles Edward Fellowes [P. 1905]; 3 Grange Road, Ealing. [Architectural Association.]
 ROBINSON: Alfred Douglas [P. 1907]; 29 Beacon Hill, Camden Road, N. [Architectural Association.]
 SWINDELLS: Francis Harold [P. 1905]; 60 Belsize Avenue, Hampstead, N.W. [Architectural Association.]
 TANNER: Edwin John [P. 1906]; Rothbury, Beckenham, Kent. [Architectural Association.]
 VOYSEY: Charles [P. 1906]; 14 Briardale Gardens, Hampstead, N.W. [Architectural Association.]

Final and Special.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held

in London from the 18th to the 26th November. Of the 114 candidates examined, 43 passed, and 71 were relegated to their studies. The names and addresses of the passed candidates are as follows:—

["P." and "S." = *Probationer and Student.*]

AINSWORTH: John Cooper [P. 1903, S. 1908]; "Arnold Hill," Gee Cross, Hyde.
 ALEXANDER: George Luard [Special Examination]; 132 Cambridge Street, Warwick Square, S.W.
 ALLEN: John Gordon [P. 1902, S. 1907]; Dashmonden, Holmdale Road, West Hampstead, N.W.
 ATKINSON: Robert [Special Examination]; 2 South Square, Gray's Inn, W.C.
 AUTY: Josiah [Special Examination]; Union Bank Chambers, Morley.
 BLUM: Quentin Mangnall [P. 1902, S. 1904]; "Whitecote," Devonshire Road, St. Anne's-on-the-Sea.
 BRYAN: Arthur Francis [P. 1905, S. 1906]; c/o C. Harrison Townsend, Esq., 32 Queen's Road, St. John's Wood, N.W.
 BURSTOW: George Herbert [Special Examination]; 107 St. Leonard's Road, Hove, Brighton.
 CHAPMAN: Richard Thwaite [P. 1904, S. 1906]; "Glen-thorne," 535 Chorley Old Road, Bolton.
 CLAYPOLE: Edward Ernest Blunt [P. 1898, S. 1902]; Strathmore, 32 Kingscourt Road, Streatham.
 DAVIDSON: John Adam [P. 1905, S. 1906]; 6 Clarence Avenue, Londonderry, Ireland.
 DAVIS: Claude William [P. 1902, S. 1906]; 288 Pershore Road, Edgbaston, Birmingham.
 DICKMAN: Harry Alderman [P. 1904, S. 1906]; 32 Albert Grove, Nottingham.
 DOUGLAS: Alexander Houston [P. 1901, S. 1905]; 83 St. Mark's Road, North Kensington, W.
 ELTON: Percie Ion [Special Examination]; 113 Gloucester Road, South Kensington, S.W.
 FINN: Edwin [P. 1902, S. 1905]; Ethelbert Road, Canterbury.
 GOODCHILD: William [P. 1904, S. 1906]; Craven House, Hervey Street, Ipswich.
 GUTHRIE: Leonard Rome [Special Examination]; 13 John Street, Adelphi, W.C.
 HADWEN: Noel Waugh [P. 1905, S. 1909]; Kelroyd, Triangle, Yorks.
 HANSCOMB: Charles Ernest [P. 1909, S. 1905]; 13 Algiers Road, Ladywell, S.E.
 HASTEWELL: Robert Edwin [P. 1901, S. 1903]; Westgate Chambers, Haltwhistle, Northumberland.
 HAWKINS: Frederick George [P. 1908, S. 1908]; Church Walk, Hendon, N.W.
 HEPPLE: Francis Henry [P. 1903, S. 1907]; 27 St. George's Square, Worcester.
 HOLLIS: Henry Clifford [P. 1902, S. 1903]; 59 Crown-dale Road, Oakley Square, N.W.
 MAXWELL: William Charles [Special Examination]; 29 Donegall Street, Belfast.
 MILBURN: William, jun. [P. 1902, S. 1908]; 8 Thornhill Park, Sunderland.
 MOBERLY: Arthur Hamilton [P. 1907, S. 1908]; 10 Campden House Road, W.
 MUNNINGS: Joseph Fearis [Special Examination]; c/o H. Strutton, Esq., "Baramati," via Diksal, Poona District, Bombay Presidency, India.
 ORME: Robert Wright [P. 1902, S. 1904]; 3A Orchard Road, St. Anne's-on-Sea, Lancashire.
 OSLER: Francis [S. 1904]; 44 Weltje Road, Hammer-smith, W.
 PAGE: James [P. 1899, S. 1908]; 50 Arcadian Gardens, Bowes Park, N.
 ROBERTS: David John [Special Examination]; Holly Lane, Erdington, near Birmingham.

ROBERTS: William John, M.A. [P. 1908, S. 1908]; 66 Yew Tree Road, Withington, Manchester.
 ROWLEDGE: George Henry [P. 1902, S. 1905]; 22 Parkfield Street, Rusholme, Manchester.
 SAGAR: William Henry [P. 1904, S. 1907]; 6 Wellington Square, Chelsea, S.W.
 SCOTT-WILLEY: Hugh Henry [P. 1902, S. 1906]; Somersfield, Reigate.
 STONE: George Morrison [P. 1900, S. 1904]; 7 Fairmount Road, Brixton Hill, S.W.
 STONEHOUSE: Charles [P. 1900, S. 1903]; Irving Place, Blackburn.
 THOMPSON: Morris [P. 1901, S. 1904]; Redcot, Clifton Drive, Lytham, Lancs.
 TROUP: Francis Gordon [P. 1907, S. 1909]; c/o Mrs. Aspland, 47 Linden Gardens, Bayswater.
 WARE: Vivian [P. 1902, S. 1906]; 83 Richmond Wood Road, Bournemouth.
 WOOLLATT: John [P. 1904, S. 1905]; c/o Messrs. Evans & Sons, Eldon Chambers, Nottingham.
 WRIGHT: Cecil Laurence [P. 1898, S. 1905]; The Lyntons, New Malden.

The following table shows the number of failures among the seventy-one relegated candidates in each division of the Final Examination:—

| | |
|--|----|
| I. Design | 51 |
| II. Mouldings and Ornaments | 61 |
| III. Building Materials | 15 |
| IV. Principles of Hygiene | 20 |
| V. Specifications | 27 |
| VI. Construction, Foundations, &c. | 33 |
| VII. Construction, Iron and Steel, &c. | 22 |

Colonial Examinations.

The following candidates passed the Colonial Intermediate Examination held in Sydney, November 1908:—

KEITH-HARRIS: Royston John [P. 1907]; 1 Merchant Street, Stanmore, near Sydney, N.S.W.
 ROARTY: Stanislaus [P. 190]; "Guernsey House," 42 Lansdowne Street, Surry Hill, Sydney.

The following candidates passed the Colonial Special Examinations qualifying for candidature as Associate R.I.B.A. held in Sydney last June:—

SUTCLIFFE: Hartley; 50 Lewisham Road, Windsor, Melbourne, Victoria, Australia.
 TAYLOR: Edward Alexander; Ben Side, Wollstonecraft, North Sydney, Sydney, N.S.W.

The following candidate passed the Special Examination held in Johannesburg in July last:—

BEALL: Walter John; Public Works Department, Pietermaritzburg, Natal.

A Student of the School of Architecture, University of Liverpool.

Professor Reilly sends the following note on the student-career of the author of the Paper on the Greek Revival in England published in the present issue, pp. 177-92:—

Mr. L. B. Budden was a student in the School of Architecture, University of Liverpool, during the sessions 1906-7, 1907-8, 1908-9, working under the old system for a B.A. degree with honours in architecture. If he had entered a year later he would have come within the new B.Arch. course. One of the regulations for any honours degree in

the University is that a thesis, representing a certain amount of original investigation, must be presented before the student can sit for his examination. With the architectural students it has been customary to insist that a set of measured drawings illustrating the subject of the thesis should be submitted with it. In this case Mr. Budden sent in drawings of the Customs House and Seaforth Hall, both in Liverpool. Mr. Budden was eighteen years of age when he entered the school three years ago. His first year's study was devoted to general work, including languages, mathematics, and history, for his Intermediate Examination. His architectural studies were confined, therefore, to his last two years, and his work shows what can be accomplished in this time by a hard-working student of good abilities under an organised system of training. On leaving the school last July, Mr. Budden was awarded a University Scholarship of £50 with his first-class degree, and the Holt Travelling Scholarship, also of £50, for designs made during his course of study. To these two the British School at Athens, in recognition of his knowledge of Greek architecture, has added another £50, on condition that he works in the School at Athens for a short time. He has therefore left for an extended tour in Italy and Greece with £150 to his credit, which, it will be generally agreed, is a very satisfactory start for a student.

In a later note Professor Reilly says he has just learnt that Mr. Budden is engaged at Athens on a restoration of the Propylæa, from measurements of the actual stones, under the direction of Mr. Dawkins, the head of the British School.

Practical and Theoretical Training

An interesting and suggestive Paper on this subject was read by Mr. R. Weir Schultz before the Manchester Society of Architects on the 10th of last month.* After a criticism of the old method of architectural training, and of some of the new methods now on their trial, Mr. Schultz asked, Is our modern system based on right lines for producing thoroughly competent, practically trained architects capable of dealing with all the complex problems which go to the making of a fully thought-out building, complete in every detail, pleasing to look on, of good proportion and detail, and entirely suitable for its purpose in every respect?

Continuing, Mr. Schultz said:—

What should an architect require to know? If we put it all down in black and white, I think most of us will agree that he apparently ought to know more than it is possible for any one man to acquire in a lifetime. But, if we analyse things a little, we may find that part of the knowledge need only be general, sufficient, in fact, to enable him to get at his facts through the right channels, and know them when he gets them. In practical things he ought to be conversant with materials, their natures and limitations,

* The Paper is published in full in the *British Architect* of the 19th November.

a bit of a geologist, a bit of a chemist, a bit of a botanist or arboriculturist, a considerable portion of an engineer, a bit of a lawyer, and a man of affairs generally. He ought to be able to draw accurately rather than artistically, have a sense of good proportion, orderliness and arrangement, some idea of sculpture and decoration, a knowledge of colour and its application, be a bit of an electrician, a sanitary expert, know something of acoustics, light and heat, and be able to survey and have sufficient knowledge of figures and costs to be able to control expenditure, and so on. You will see, therefore, that the range of knowledge necessary to proficiency is a wide one.

In my opinion, the most satisfactory form of training is that which is founded on actual contact with practical everyday work, and I therefore think and feel very strongly that a youth who intends being an architect should, as soon as ever he can, get into touch with real building—not merely as an onlooker, but as a participant. He will then gradually get to know his materials, their proper uses, their limitations, their various behaviour under differing conditions, and how they should be handled to get the best results, structurally as well as economically.

He ought to learn how to put things together by actually doing some part himself; for instance, by cutting out and framing up a door or a window, by laying a floor or a piece of lead flat, by sweating a lead joint—in fact, by getting into intimate touch with the hundred and one practical details that go to the completion of a building. When he has attempted to do a few things, even if only in one branch, his powers of observation will become keener, he will look at things in other branches from the practical point of view, and be able to grasp the bearing of things so much quicker, so much more accurately.

He may draw dozens of full-size details of, say, windows or doors in an architect's office, and yet not be able to thoroughly grasp practically how the things are actually put together; but once he has tried to do it for himself he will know most of what there is to be known, and will not forget it.

Then in such matters as, say, the relative proportion of sand and lime or cement to make good mortar, where so much depends on the nature of the sand, a little practical experience is worth pages of text-book dissertation.

At times, when he goes off for a holiday, either at home or abroad, and takes to studying the works of the past, he should see that he looks behind the surface, does not concern himself only with shapes and forms, and even proportions, but gives some attention to the how and why of it all—realises that there were difficulties which had to be overcome, problems which had to be solved, limitations which had to be observed.

Difficulties of material, of level, of construction, problems of arrangement, of planning, perhaps of lighting, limitations of site, of cost (for evidences of this will often assert themselves clearly, even when of actual record there is none). Some three or four years ago perhaps, when going round the show of students' work at the R.I.B.A., I was much struck with one set of drawings, one only out of all the lot which had been sent in, for, I think, the Pugin Studentship. They were not perhaps the most outwardly attractive set there. I forget whether they received even an honourable mention, but they showed evidence that their author had looked at his old work, not on the

surface only, but through and through; that he had realised the difficulties, appreciated the problems, and set himself to show how they had been solved, and to realise clearly how the old builders really built. That youth, who hailed from not very far from this city, has recently sent from the East most excellent drawings, analysing old buildings as, perhaps, they have never been analysed before, and these will form, when published, a very valuable addition to the records of the history of architecture.

Now I should like to say very clearly—and I fear a large number of you may not agree with me, but I cannot help that—the sooner we give up talking about orders and styles the better. Let us forget there were such things. Many of us wish this had been given up long ago, for now the client has got hold of the jargon, and he often comes to you with a ready-made scheme such as that his house is to be, say, in the Queen Anne style (or, perhaps, this has gone out of fashion now, has it not?), with a Georgian dining-room, a Louis Seize drawing-room, and a Tudor hall; and the amusing thing is that he expects also a modern liveable house, with proper sanitation, electric light, lifts, and telephones. Now, do let us, for goodness' sake, try to forget about the five orders of architecture (or were there really only three, after all?), and about Early English and Decorated, Queen Anne and Georgian, and treat each proposed building as a problem to be solved in the best way from all points of view. Let the type grow out of the requirements, the kind of material to be employed, the nature of the construction, and so forth. The proportion will come all right if your problem is properly solved. If ornament is necessary or suitable, use it with discrimination and restraint, and let your building express the purpose for which it has been built, and it will be interesting and full of life, not a plagiarism of dead forms and details.

But we are wandering away again from our subject, which is practical and theoretical training. I have said that practical training can best be got in actual touch with real building, but theoretical training should go along with it, and here, to my mind, the basis should be constructive. All good building is based on proper construction. Modern methods of construction are largely a matter of engineering; hence our modern teaching should be on the lines of engineering as applied to building.

Now, whatever is to be the outcome of things in the future, we must concern ourselves most with immediate possibilities and how to obtain the best results with the facilities which are reasonably available.

If there are classes for the crafts connected with building in technical schools of this city—and there surely must be—and if such classes are conducted on practical lines, I would recommend those students who have not the opportunity of coming in direct and continuous contact with real building to attend some of these classes, take off their coats, roll up their sleeves, and do something with their hands. Then some time should be devoted to the scientific study of structural problems at a school of engineering; and here I am specially addressing myself to students—learn to know about your materials, go to a quarry to see stone actually quarried, go to a mason's yard and see it being dressed, try to do some yourself, if he will let you—I doubt if he will—see it built in position, look at older buildings where the same stone has been used, see how it weathers under different conditions, whether the

mouldings decay rapidly (if so, it should not be moulded), what form of surface wears best, and you will find lots of wrong uses and some right ones; but before you have done you will know, or ought to know, what to avoid doing.

Learn something in a similar way about limes, sands, wood, plaster, paint, in short everything that goes to make a building. You cannot do it all at once, but you are young, and have the years before you.

If you give half your time to these things, you can give the other half to your friend the architect, and learn how to work out problems of planning actual buildings—of much more use to you than working on fancy designs at art schools—get him to let you go and see them as they go up, and, if possible, live some time on the job you have worked on.

In the spring and summer, when there are flowers in the garden, learn to draw them and get some inspiration for your ornament from them, and not from copying casts of ornamental design, fine in themselves, but parts of a lost tradition.

I look forward to the possibilities of an arrangement with reliable builders in cities, whereby young architects can spend part of their time under the foremen, not fooling, but doing definite duties and learning things. Part of the premium formerly paid to the architect might be devoted to securing this advantage, and I think this should come first, and then the engineering course—the architect's office last. By this means the pupil will go to his scientific training with some knowledge of materials, and of practical construction, and to the architect with at least some knowledge of all these things, and he will really then be of some actual use to him, if he looks at it from a more or less selfish point of view.

Now a further word in conclusion to the student. In all you do, and whatever you do, keep your eyes and ears open, look and observe, listen and remember, ponder and digest, and see that you are convinced that there is a proper reason for everything that is done; and, above all, do not think that the study and practice of architecture and the art of building is easy and simple, and that it can be learnt in a year or two, but make up your mind that you are to be a learner all the time, and by-and-by you will perhaps have a chance of directing work that will, while interesting you, interest others as well, and that may—who knows?—be the means of advancing a step further the reasonable progress of architecture, "the Queen of the Arts."

The Carpenters' Company : Lectures on Arts connected with Building.

The Carpenters' Company has decided to give a series of lectures beginning next month on the arts connected with building, in continuation of those delivered in the early part of this year. The lectures are intended in the first place for all craftsmen and those engaged in actual trades in connection with the constructive arts, but all of either sex and of any trade or profession are invited to attend. At the end of the course prizes will be offered to craftsmen and artisans who have attended at least eight lectures of this series. The following is the programme of the course :—

Jan. 12.—What is Artistic Craftsmanship? by Prof. Beresford Pite [F].

Jan. 19.—The Art of Building, with special reference to the use and abuse of materials, by Mr. M. H. Baillie Scott.

" 26.—The Carpenter's Craft, by Mr. Banister Fletcher [F].

Feb. 2.—The Joiner's Craft, by Sir Brumwell Thomas, [F].

" 9.—Native Craftsmanship in Timber, Brick, and Stone before the 18th Century, by Mr. Arthur Stratton [A].

" 16.—The Art of the Lead Worker, by Mr. Lawrence Weaver, F.S.A.

" 23.—The Art of the Plasterer, by Mr. George P. Bunkart.

Mar. 2.—Castles in the Air, by Mr. C. F. A. Voysey.

" 9.—The Use of Coloured Materials in Building, by Mr. Halsey Ricardo [F].

" 16.—Mural Painting, by Prof. G. E. Moira [H.A.].

" 23.—Coloured Reliefs and Mosaic, by Mr. R. Anning Bell, R.W.S.

" 30.—Sculpture as applied to Buildings, by Mr. F. W. Pomeroy, A.R.A. [H.A.].

April 6.—The Craft of Repairing Buildings, by Mr. Thackeray Turner, F.S.A. [F].

Tickets of admission to the lectures can be obtained free from Mr. J. H. Freeman, The Clerk, Carpenters' Hall, London Wall, E.C.

Mr. T. J. Bailey's Retirement.

At the meeting of the Education Committee of the London County Council last week the General Purposes Committee reported that Mr. T. J. Bailey, the Schools Architect, would retire from the Council's service on 31st December, and recommended that he should have exceptional treatment with regard to his retiring allowance. The Committee placed on record its fullest sense of the very valuable services rendered by Mr. Bailey.

Mr. Key paid a warm compliment to the work of the retiring architect. London schools had, he said, greatly benefited during Mr. Bailey's office, and his improvements had raised the standard of architecture, not only in England, but all over the world. In parting with him the Council was parting with the first architect to make a professional study of that particular branch of architecture. He was sure the Council wished Mr. Bailey many years of retired life, and heartily appreciated his valuable services to London.

Obituary.

At the General Meeting last Monday Mr. Henry T. Hare, *Hon. Secretary*, announced the decease of the following members :—

HENRY BAYLY GARLING, elected *Associate* in 1848 and *Fellow* in 1857, who died on the 4th inst., aged eighty-eight years. Born in London in 1822, Mr. Garling was educated at King's College, London. He adopted his father's profession of architect, and whilst a student of the Royal Academy in 1842 he gained the Silver Medal for measured drawings, and in the following year the Gold Medal for a design for a Royal Academy of Music. In 1847 he was awarded the Silver Medal of the Insti-

tute for an essay upon sculpture and sculptured ornament. Mr. Garling began practice in 1848, and in 1857 he won in competition the first premium of £800 for the best design for the new War Office, a design which he was never called upon to execute. Lord Palmerston later endeavoured to secure his employment upon the new Foreign Office, but the work was ultimately entrusted to Sir Gilbert Scott. In 1866 he was chosen one of eleven competitors for the new Law Courts, the final choice resting upon Mr. G. E. Street, who carried out the work. Mr. Garling retired from active practice in 1879, and took up his residence at Folkestone, devoting much of his time to landscape painting. He was a great traveller and a great reader, and retained his intellectual gifts to the close of a long and useful life.

THOMAS WILLIAM CUTLER, elected *Associate* in 1873 and *Fellow* in 1879. Mr. Cutler served for some years on the Council prior to 1898, and had taken an active part in the affairs of the Institute. He was also a prominent member of the Sanitary Institute.

GEORGE CAMPBELL SHERRIN, elected *Associate* in 1882 and *Fellow* in 1898. He had served for some years on the Art Committee of the Institute, part of the time filling the office of Vice-Chairman. In his earlier years Mr. Sherrin exhibited with some success at the Royal Academy, and among his best work was a picture of The Gate House, Ingatestone. The originality and beauty of his designs exercised a considerable influence on architecture in Essex, where he began his career. He restored Lord Petre's seat near Brentwood, and reconstructed and built residences in all parts of that county, and in Surrey, Sussex, and the Isle of Wight. He also designed the Alexandra Hotel, Dovercourt, and the Southend Kursaal. Among his London works were Rayleigh House, Chelsea, for the Hon. Richard Strutt, and Cannon Street Buildings, offices in Carey Street, Lincoln's Inn, St. Mary-at-Hill House, Eastcheap, and premises in Clarges Street, Piccadilly, and Finsbury. As architect to the Metropolitan Railway Company Mr. Sherrin rebuilt Moorgate Street Station, Kensington High Street Station, with its arcade and adjoining shops, South Kensington Station, and Gloucester Road, the Monument, and Mark Lane Stations. About sixteen years ago he reconstructed Spitalfields Market. The branch of his work which, perhaps, afforded him most satisfaction was that connected with religious buildings, especially the dome of the Brompton Oratory, the new buildings at Douai College in France, and the re-erection, in Eldon Street, of the church of St. Mary Moorfields. In the last-named building there was sung on the day of his funeral a solemn requiem Mass. The funeral party afterwards travelled to Ingatestone, the interment taking place in the neighbouring parish of Frierning. Mr. Hare, in a brief reference to Mr. Sherrin's work last Monday, said

it was not, he thought, as widely known as it deserved to be. He was a most earnest worker, and all his buildings bore evidence of his sincerity and of the extreme care and trouble he took in carrying out his design to a successful conclusion. His loss is a very serious one, not only to the Institute, but to the profession generally. Mr. Sherrin leaves a widow, with three sons, one of whom—Mr. Frank Sherrin—had been associated with him for many years in his practice, and three daughters.

The Preliminary Examination and Bristol University.

The Council, on the recommendation of the Board of Examiners, have resolved to recognise the Matriculation Examination of the University of Bristol as exempting from subjects I., II., III., IV., V., and VII. of the R.I.B.A. Preliminary Examination.

Reinstatement of a Fellow.

By a resolution of the Council under By-law 20, Mr. Joseph Barker Daniel Wall has been reinstated as a Fellow of the Royal Institute.

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1909-10, held Monday, 13th December 1909, at 8 p.m.—Present, Mr. Ernest George, *President*, in the Chair; 32 Fellows (including 14 members of the Council), 29 Associates (including 2 members of the Council), and several visitors—the Minutes of the Meeting held 29th November [p. 139] were taken as read, and signed as correct.

The Hon. Secretary having announced the decease of Henry Bayly Garling, Thomas William Cutler, and George Campbell Sherrin, *Fellows*, it was resolved that the regrets of the Institute for the loss it had sustained be entered on the Minutes of the Meeting, and that a message of sympathy and condolence be conveyed to the relatives of the late members.

The following members attending for the first time since their election were formally admitted by the President:—Arthur Benison Hubback, Richard Henry Weymouth, *Fellows*; Harry Courtenay Constantine, Henry Seton Morris, Joseph Seddon, George Edmonds Fitzgerald, Douglas William Stewart, William Francis Dickinson, *Associates*.

The Secretary announced that the following candidates had been nominated for membership: As *Associate*, Andrew Graham Henderson; as *Hon. Associates*, Arthur Stockdale Cope, A.R.A., and Arthur John Evans, D.Litt.Oxon.

Mr. A. D. F. Hamlin, Professor of Architecture at Columbia University, New York, having read a Paper on ARCHITECTURAL EDUCATION IN AMERICA, a discussion ensued, and a vote of thanks was passed to the Professor by acclamation.

The proceedings closed, and the meeting separated at 10.35 p.m.

THE GREEK REVIVAL IN ENGLAND.*

A Thesis submitted for the B.A. Degree with Honours in Architecture at the School of Architecture,
University of Liverpool.

By LIONEL B. BUDDEN, B.A.



ST. GEORGE'S HALL, LIVERPOOL. HARVEY LONSDALE ELMES, ARCHITECT.

THE most brilliant period in the history of architecture in England had its origin in nothing more serious than the antiquarian affectation of eighteenth-century polite society in matters relating to art. Yet it was a natural development from the Roman Renaissance, the inevitable result of an increase in archaeological knowledge.

The whole system of education at the time—its intensely classical character—favoured the growth of the movement and served to give it reality to the general public. As early as the sixteenth century it had been quite usual for Englishmen to visit Italy for the sake of the higher culture to be obtained at the flourishing universities of Bologna and Padua,† and gradually, in constantly increasing numbers, connoisseurs either came themselves or

commissioned agents to acquire those art treasures whose proper appreciation was already held to be amongst the necessary qualifications of every "complete gentleman."* By 1620 the field of search had extended to Greece, and the intense rivalry which followed† resulted in the formation of those magnificent collections of antiques most of which have now passed into the possession of the British Museum.

At the beginning of the eighteenth century the idea of "the Grand Tour" as a necessary complement to a refined training, and of art as an essential element in education, became generally recognised. It was the universal acceptance of this creed that made the Greek revival in architecture possible. To English travellers "a love of the fine arts" had become synonymous with a visit to Athens (already ousting Rome as the most important show-place on the Continent), and many of these tourists published volumes on classic art copiously illustrated either by their own sketches

* The author of this Paper, who has since graduated with first-class honours in Architecture, and is now working at the British School at Athens, desires it to be mentioned that he has in preparation a *History of the Greek Revival in Great Britain and on the Continent*, and is at present engaged collecting materials for the work. See on an earlier page of the present issue Professor Reilly's note on Mr. Budden's student career at Liverpool.—Ed.

† Michaelis, *Ancient Marbles in Britain*, p. 55.

* Henry Peacham, *Compleat Gentleman*, 2nd ed., 1634, chap. xii., "Of Antiquities."

† For Arundel's and Buckingham's dealings at Constantinople, 1627, vide Michaelis, p. 13.

or those of some accomplished draughtsman.* The secret of the success of the movement lay in the existence of this large group of wealthy patrons imbued with notions of Hellenic art, and anxious to display erudition as arbiters of taste. In precisely this way the later course of international politics favoured its continued development. The Napoleonic wars closed the greater part of Europe to British tourists between 1790 and 1815, whilst the superiority of the English fleet in the Mediterranean still directed travel to Greece. The interest was thus maintained, and persisted undiminished, till the adoption of the new cult of mediæval romanticism by the accomplished *littérateurs* of the day, upon whom lay the difficult duty of explaining art to the artists, obscured the general perception of beauty.

Architecture in England prior to 1750 had remained unaffected by any purely classic influence. In general it was Palladian, and the differences in individual manner of expression were simply such as might reasonably have been expected from the English spirit working along Italian Renaissance lines. But with the publication of Dawkins and Wood's *Illustrations of Palmyra and Baalbec* (1750) admiration was excited for "Roman magnificence undiluted by Italian design,"† and Adam's *Spalatro*, published ten years later, served to further disconcert public taste. An unsettled eclecticism was produced amongst connoisseurs—a state of affairs highly favourable to the initiation of a new school of design.

It was then there appeared, in 1762, the first volume of *The Antiquities of Athens, measured and delineated by James Stuart, F.R.S. and F.S.A., and Nicholas Revett, painters and architects*. The result was such as not even the artists themselves could have anticipated. The work had been undertaken unostentatiously enough. In the summer of 1748 Stuart and Revett, whilst painting in Naples, discussed the possibility of an archaeological expedition to Athens. The suggestion of the young men received practical encouragement from such wealthy amateurs as Lord Charlemont and the Marquess of Rockingham, though it was not till the end of January 1751 that they were enabled to leave Venice for Athens.

In the meantime Sir James Gray had secured their election to the Society of Dilettanti,‡ and it was consequently in a sense under the patronage of the Society that the splendid result of their

* Sir Richard Worsley, the author of the *Museum Worsleyanum* (engravings by Pars), Edward Dodwell, Robert Walpole, William Gell, and Martin Leake, assisted in this way to give the Revival a dignified standing.

† Fergusson, *History of Architecture* (modern), vol. ii. p. 70.

‡ Cust, *History of the Society of Dilettanti*, p. 77. The unrivalled position which the Society then held in England as connoisseurs of infallible judgment ensured the success of the further projects which they were

labours was published. The effect of the work was almost incredible. "Grecian gusto" swept irresistibly over the country,* till conservative architects of the old school, like Ware and Gandon, could only lament what they regarded as the depravity of the time.

The ancient Hellenic artists were instantly held to be incomparable, and their sedulous imitation the only merit in modern artists. How far this furore was a genuine enthusiasm, and how far a fashionable pose, it would be difficult to determine now. In any case it was from the start misguided, and never attained to a comprehension of



THE BANK OF ENGLAND. SIR JOHN SOANE, ARCHITECT.

the aims of the greatest architects of the Revival. With typical limitation of mental vision, their monumental conceptions were regarded as pleasantly ingenious variations of fourth-century prototypes,†

stimulated to undertake, and the publication of their *Ionian Antiquities* (1769)—the product of vigorous archaeological research in the Levant, under the direction of Chandler and assisted by Pars (1764)—gave a distinction to the Neo-Greek movement which their subsequent publications served to confirm.

* An attempt to anticipate the work had been made by a Frenchman, Le Roy, "architecte, ancien pensionnaire du Roi à Rome," who, in 1758, published, under the title of *Les Dessins des plus beaux Monuments de la Grèce*, the result of his researches in Athens, made whilst those of Stuart and Revett were still in progress. But this rival venture was not successful in its intentions. It was altogether too inferior in general character, and made comparatively slight impression. Vide *La Biographie Universelle*.

† The full expression of this point of view at a later date is given by the egregious Fergusson, who, with a fine ignorance of his subject, treats the classic movement as an imitative compromise, and casually remarks: "If the Revival architects have a principle, it is that modern

mere products of honourable scholarship and intellectual agility.

The initial character of the movement, to a certain extent, justified this attitude. The works which Stuart found himself eagerly called upon to execute shortly after the publication of his researches—Lichfield House, in St. James's Square, for Lord Anson; Belvedere, in Kent, for Lord Earsley; a house in Portman Square; and the Infirmary of Greenwich Hospital*—are all, in a more or less degree, exercises in the new scholarship. But, in so far as their main composition is concerned, even they are free from the taint of literal copyism. And in the conceptions of the later masters of the Revival there is an originality that is only the product of innate genius expressing itself through a medium completely adequate. Had this rediscovery of Greek architecture been nothing more than the acquisition of so much barren information, to realise it would simply have remained the amusement of the dilettanti, and have been from the start an affair of literal reproduction. But its latent possibilities offered a more perfect expression to the spirit of our civilisation, and were sufficiently elastic to be applicable to its requirements.

It was not a case of a group of popular architects permitting their art to be vitiated by compliance with the demands of a public gone mad over some new thing. It was simply a process in "the inevitable development of facts"—the absorption of relevant matter by artists of more or less advanced tendencies—to endeavour to prevent which would have been a piece of the most futile conservatism.

The first of the greater architects to reveal in his work the influence of this freshly acquired material was Sir John Soane. Soane had received his early architectural education in the office of George Dance the younger. His exceptional talents,

which had occasioned his promotion in Dance's office,* enabled him to gain the silver and gold medals at the Royal Academy—the latter by a design for a triumphal arch which also earned for him the Travelling Studentship. This gave him the means to spend some three years in Italy, chiefly in Rome, where he devoted himself to research work and the preparation of monumental designs. On his return, in 1780, he was entrusted with the erection of many country-houses, largely through the influential connections he had formed during his stay in Rome. It was whilst he was occupied with the execution of these works that he appears to have devoted attention to the study of



THE BRITISH MUSEUM. SIR ROBERT SMIRKE, ARCHITECT.

Greek architecture and become imbued with an admiration for its perfection. His sources of information were indirect. He had never visited Athens himself and had to rely on drawings and engravings. To some temperaments these would have been "a precious bloodless substitute"; yet he unquestionably obtained stimulus and suggestion from them.

In 1788, on the death of Sir Robert Taylor, Soane was appointed architect to the Bank of England, and was soon after required to enlarge and practically rebuild the whole structure. Here was an occasion for a *tour de force* worthy of a George Dance or an Alexander Thompson. The utmost that could be expected from Soane was a dignified performance. An eclectic by training, he yet lacked that power of assimilation that was half the secret of Cockerell's competence, and his addiction to unfor-

purposes should be made subservient to foregone architectural styles" (*Modern Architecture*, vol. ii, p. 71).

* Later, whilst surveyor to Greenwich Hospital, "he renewed, with delicate Greek details, the interior of the chapel after the fire in 1779." Vide Belcher and Macartney, *Later Renaissance Architecture in England*, vol. i, p. 10. For list of buildings executed by Stuart and Revett for members of the Society of Dilettanti, vide *Antiquities of Athens*, vol. iv, pp. xxviii-xxx.

* He was originally employed by Dance in the capacity of errand boy, and was later transferred to the office of Henry Holland. He was born in 1753, the son of a stonemason.

tunately eccentric detail*—a vice peculiarly noticeable in his later work—further hampered the full expression of his ideas. The ornament is deplorable, and the ill-advised profusion of small sunk panels and insignificant blind windows destroys all breadth in the façades. The whole building, moreover, rests upon too low a stylobate, and the recessed colonnades—finely enough placed in themselves—lose incalculably in consequence. Yet in the refinement of the Græco-Roman order (taken from the Temple of the Sibyl at Tivoli) and in the flat surface treatment of the masses there are real

Yet, as Professor of Architecture at the Royal Academy, to which position Soane was appointed, in succession to Dance, in 1806, his lectures on architecture attracted widespread attention* and enabled him to exercise real influence in assisting the formation of a school of serious thought in design.† Amongst those directly under his influence, the most notable was Sir Robert Smirke—his pupil and successor—who, though he had studied in Greece and Sicily and was a more accomplished scholar, was yet an artist of far less conviction.

The wide extent of his travels, which included



UNIVERSITY COLLEGE, LONDON. WILLIAM WILKINS, ARCHITECT

indications of the new spirit. They are tentative efforts in the direction of progress, and mark a certain advance.

The greater part of Soane's other work in London†—the Westminster Law Courts, the Privy Council and Board of Trade Offices in Whitehall, the State Paper Office at Westminster, &c.—has since been either altered or removed, but, from such illustrations as we have seen, it does not appear to have been more successful.

* A satirical attack upon his "Bæotian" style, published in *Knight's Quarterly Magazine*, 1824, led to an unsuccessful libel action, and he continued to incur much hostile criticism and ridicule.

† In that undertaken subsequent to 1811 he employed Michael Gandy (brother of Gandy-Deering) as his head draughtsman. The latter was a brilliant architect and of invaluable assistance, but as he received no acknowledgment of his abilities, even in the work executed after Soane himself had become blind, he ultimately went insane through disappointment (1843).

Italy, the South of France, and the German States, had given him a taste for copying rather than for original achievement, and a facile catholicity of appreciation that made it a matter of indifference whether he perpetrated a Gothic anachronism or occupied himself with serious design. In spite of this his contribution to the movement was considerable. His classic work is admirably refined and never spoilt by meretricious detail. If nothing worse were done nowadays we might contemplate

* The course, which began in 1809, was temporarily suspended in 1810 in consequence of a vote of censure passed on him by the Academy for adversely criticising the work of a contemporary.

† For a criticism of the collection of "antiques, books, and works of art," which he had made (shortly after his appointment as professor) for the benefit of students in his house in Lincoln's Inn Fields, ultimately bequeathed to the nation, *vide* Michaelis, *Ancient Marbles in Great Britain*, § 90, p. 164.

the future with a very reasonable optimism. Before his extensive tour in Greece in 1803* he had already made himself familiar with the publications of Stuart, Chandler, Le Roy, and others, and his researches in the Peloponnesus, Attica, and Sicily confirmed his admiration for Hellenic art.

Shortly after his return in 1805 influential friends were able to secure for him several important commissions. Of these Lowther, Eastnor, and Kinfauns Castles were executed in his mediæval manner, "utilised and modified for the purpose of convenient occupation by noblemen of the nineteenth century." Inability to discriminate between

as the latter is akin to the Classic from which it has developed; that the character of modern civilisation renders the revival of Gothic art, even in the most modified or "progressive" form, an impossibility; that an admiration for its barbaric beauty does not justify an imitation that must inevitably be lifeless; that the particular conditions—economic, social, religious, and political—which it reflects and of which it was the product have so entirely changed that no effort to regain the spirit of the age can be even partially successful; that the whole mental attitude of which Gothic art was the vigorous expression has definitely passed, and



THE NATIONAL GALLERY. WILLIAM WILKINS, ARCHITECT.

relevant and irrelevant sources of inspiration led Smirke into these unhappy mistakes, as it did most of his contemporaries. They found it a matter for self-congratulation† that they were possessed of sufficient knowledge and technical versatility to design in either Classic or Gothic, and complacently regarded their burlesques of mediæval architecture as convincing proofs of superiority over their predecessors. They conceived themselves advancing by leaps and bounds. They did not appreciate that mediæval society is as remote from modern

that with the Renaissance architecture again became personal and self-conscious. It is precisely this that accounts for the amazing inequality of Smirke's performances—his Mediæval are detestable, his Classic always at least pleasant. On the death of Wyatt in 1813, and the subsequent subdivision of the office of architect to the Board of Works, he became one of the attached architects, and undertook the design of a considerable number of Courts of Justice, Council Houses, and the like, in addition to his private work.

In 1823 came his supreme opportunity—the British Museum. The money at his disposal exceeded a million sterling, and he was permitted ample time for the elaboration of his design: he was assisted also by the exceedingly simple character of the site. It was an ideal problem, his solution a rather magnificent failure. It is not a coherent whole. There is no unity of conception in the relation of plan and elevation. The

* The overtures which Lord Elgin had made in 1800 with a view to securing Smirke's services in the prosecution of his Athenian researches were ineffectual, though the reason of their failure is not given in the latter's journal ("Memoir of the late Sir R. Smirke," by Edward Smirke: TRANSACTIONS R.I.B.A., 1866-67, p. 197).

† Smirke was wont to recall with pride that he was already practising in Gothic at a time when most of his colleagues had been "but scantily educated in it" (*Ibid.*).



THE MARBLE ARCH. JOHN NASH, ARCHITECT.

great porticoes form simply a frontispiece that is applied to a structure partly independent of it. Yet they have a grandeur that is not entirely the result of mere size. If they reveal his limitation and insincerity as an artist, they reveal also a realisation of the light and shade value of such an arrangement, a quality of imagination in no sense mean, a genuine feeling for greatness of scale.

As the Bank of England may be taken as typical of the character of Soane's achievement in architecture, so the British Museum may be regarded as an embodiment of the best and worst in Smirke's art. And his other important work—the General Post Office and King's College, London (1831)—is of much the same quality—quiet, scholarly, and dignified, but cold in its correctness and remote in its effect.



THE SCREEN, HYDE PARK CORNER. DECIMUS BURTON, ARCHITECT.

The degree in which Soane and Smirke differed from the rest of their contemporaries was, for the most part, in opportunity. Wilkins and Nash alone approached them in this respect.

The former's reputation at Cambridge as an architect of exceptional scholarship* early provided him with an occasion for the exercise of his abilities on a large scale. He had entered Caius College as a scholar in 1796, graduated B.A. and sixth wrangler in 1800, and in the following year, being one of West's "Travelling Bachelors," started on a tour of four years in Greece, Asia Minor, and Italy. The publication of his researches in *Magna Græcia*† brought the influence of this hitherto unknown phase of Hellenic art to bear on the development of the Revival, and earned for him considerable celebrity.

In 1804 he was requested to prepare a Greek design for Downing College, Cambridge, portions of which, costing over £50,000, he carried out between 1807 and 1811. At the same time he produced and executed a singularly ugly Gothic design for New Court, Trinity—"an example of robust openmindedness not often equalled."‡ This display of cheap versatility further increased his prestige, and commissions followed in rapid succession. His reconstruction of Grange House Hampshire, in 1820, might be regarded as a very successful piece of work had the building been required for the purposes of a temple, but as a residence for an English gentleman it is merely an illustration of the extraordinary submissive character of his client. On the completion of the United Universities' Club House in Pall Mall, designed in conjunction with Gandy-Deering, he undertook the erection of London University College, his *chef-d'œuvre*. The decastyle portico is in itself exceptionally beautiful, and great breadth is given by the faultless pitch of the pediment; but the whole composition seems to have been thought out in elevation and piecemeal. The dome, in consideration of the distance which it is set back from the main front, is too low to dominate the central

* He was the first commentator on Vitruvius to suggest the correct interpretation of the vexed passage in book v., which treats of "scamilli impares." Though wrong in the details of his explanation, Wilkins' contention that they were a device for correcting optical illusions, and the means adopted to secure the required curvature, was subsequently confirmed by the investigations of Pennethorne and Penrose.

† *Antiquities of Magna Græcia*, William Wilkins, Cambridge, 1807, fol. 2. Also *Atheniensiæ, or Remarks on the Buildings of Athens*, 1812, 8vo; and *Prolusiones Architectonicæ*, 1827 and 1837, 4to (ingenious essays on Greek and Roman architecture).

‡ *Architectural Review*, vol. ix. 1901, p. 108, "Art in the Victorian Era," by Arthur Edmund Street.

mass, whilst the latter is altogether out of scale with the wings. It breaks through them with a crude dislocation of lines, and its magnificent podium is conceived quite independently of the rusticated basement into which it dies.

This method of design was the fatal result of archaeological knowledge on a certain type of intellect.

Whilst Burton and Cockerell were occupied with problems of massing and composition, of line and proportion, and were simply resorting to Greek models to acquire a more exquisite

Wilkins' own design for the National Gallery in 1832 is convincing evidence of this. Hampered by the unwarrantable interference of the Government, which imposed such conditions as the provision of roadways through the building to give access to the barracks behind,* and by an alteration in the allotted site† and the necessity of introducing the pediment and columns from Carlton House, his original scheme, with its broad flight of steps down to the level of the fountains, and with a group of Venetian horses as the crowning feature, degenerated into the existing compromise,‡



THE TAYLOR AND RANDOLPH BUILDINGS, OXFORD: SOUTH-WEST VIEW. C. R. COCKERELL, ARCHITECT.

sensibility to beauty of form, men of the Wilkins school were regarding the whole business as an affair of the orders and elaborating systems of practice based on the classification of data obtained from antiquarian research. To the blight of Vitruvius and Palladio was to succeed the petrifying influence of this conception of the new scholarship. Hedged about with definitely ascertained restrictions, the art of architecture was to become at once the most scientific and the duller thing in the world. It might result in the occasional production of some admirably correct individual feature, but in problems of any magnitude it was utterly inadequate, and conducive to an implicit faith in the infallible virtue of porticoes.

a monument to the inelasticity of his academic art. But he at least, in some measure, endeavoured to preserve intact the elemental dignity of architecture by refusing to admit the corrupt introduction of cheap facing composition masquerading as stone. To John Nash must be attributed the initiation of this depravity which subsequently became so general. His opportunity for exercising serious

* The total cost was limited to £70,000—less than one-half of the sum which Wilkins had stated to be necessary.

† The wings were required to be set back so as not to obstruct the view of St. Martin's Church—a stipulation which Wilkins particularly resented.

‡ This has suffered still further by the later alterations of E. M. Barry.

influence on customary practice regarding material came with his selection, as an architect of wide experience and a pupil of Sir Robert Taylor, to carry through the great architectural schemes undertaken under the Regency. Though he had previously enjoyed the patronage of the nobility and wealthy gentry to some considerable extent, none of the work offered him had been comparable in magnitude to the design of the terraces in Regent's Park—the first portion of his public commission. The palatial façades of these he executed in plaster, and "the age of stucco" was established. Its impermanence and the insincerity of employing it as a substitute were disregarded. Society was charmed. Henceforth it was possible to obtain the most sumptuous results without heavy expenditure.

In 1818 Nash laid out Regent Street and The Quadrant, again resorting to a plaster treatment for the elevations. In spite of their featureless mono-

from its original position. As part of a great arrangement, its essential imperfections may have passed comparatively unnoticed, but isolated as it now is they are thrown into unsolved relief and accentuate his limitations.

Soane, Smirke, Wilkins, and Nash may be said to typify, in their individual manners of expression, the general character of the early and middle period of the Revival. It was they who exerted most influence and determined the general trend of development by their practice, rather on account of their larger opportunities than for any great superiority in artistry over the ruck of their contemporaries. Holland, with his Græco-Roman style of composition and profusion of plaster Adamesque detail, is comparable both to Soane and Nash.

Inwood, in his St. Paneras New Church, is as archaeological as Wilkins, even in the most academic of his performances, and Hardwick—judged from the point of view of the day—outshines both in versatility.*

To distinguish the work of Basevi, Railton, Gandy-Deering, and a host of others from that of Smirke or Wilkins, in the absence of certain evidence, would involve the most minutely intimate acquaintance with variations of technique in matters of detail. It is all much in the same spirit—quiet, dignified, and refined, occasionally even magnificent, but usually lacking in vigour and reality. It was the supreme irony of the movement that during its general appreciation it produced little of moment, but that with the decline of public interest its achievements attained to a brilliancy hitherto unprecedented in the history of architecture in England.

Whilst the beauty of the Elgin Marbles became as a thing forgotten, and the works of Westmacott, Chantrey, and Flaxman were relegated to the box-rooms of country mansions, the genius of Alfred Stevens was expressing itself, with a Phidian mastery of form, in creations worthy to find a place in the monumental conceptions of Burton, Cockerell, or Elmes.

Decimus Burton had been sane enough to refrain from fettering his powers of expression by the acquisition of too much archaeological knowledge. Disregarding fashion, he had resisted the temptation to prepare and publish a treatise on the result of his travels in Greece and Italy. He had carefully preserved intact his own individuality as an artist that he might be able to say what he desired himself, and not echo, with variations more or less successful, the dicta of Palladio or Ictinus.



ENTRANCE TO EUSTON STATION. THOMAS HARDWICK, ARCHITECT.

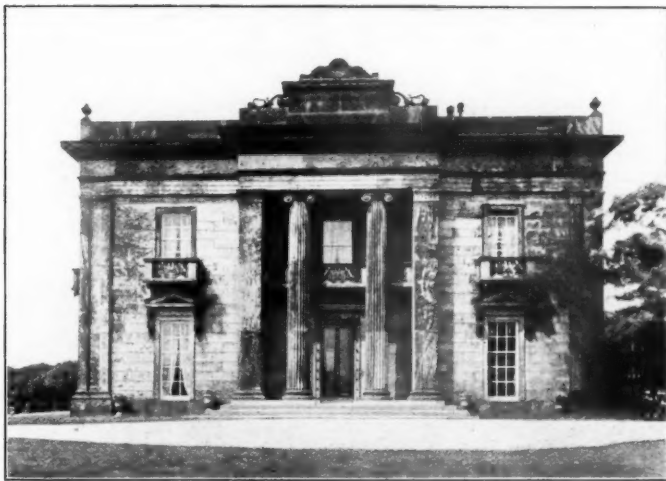
tony, resulting from the undue prolongation of an obvious arrangement, they have that quality of quiet refinement hardly ever absent from even the most emasculate products of the Revival, and the unbroken sweep of the projecting street colonnades must have been extraordinarily effective.*

Nash seems usually to have been most successful in the main conception of his compositions, as in the massing of the terraces in Regent's Park. He apparently lacked sufficient originality and ingenuity in detail to attain success in the treatment of minor features. His entrance to Buckingham Palace† does not bear examination removed

* These were removed in 1848 at the request of the shopkeepers, and for public reasons.

† As favourite architect of the Prince Regent, Nash was employed to repair and enlarge Buckingham House. Contrary to the intentions of Parliament in voting the money, this resulted in its complete reconstruction as Buckingham Palace (again altered by Edmund Blore on the accession of Queen Victoria). The entrance, which Nash had designed, was removed to Cumberland Gate, Hyde Park, in 1851, and is now generally known as the Marble Arch.

* In 1829, Hardwick designed an Italian hall for the Goldsmiths' Company; in the same year a Tudor Gothic school at Stockport; in 1832 Babraham House, an Elizabethan mansion, for J. Adeane, Esq.; in 1834 the Doric Propylæum and lodges to Euston Station.



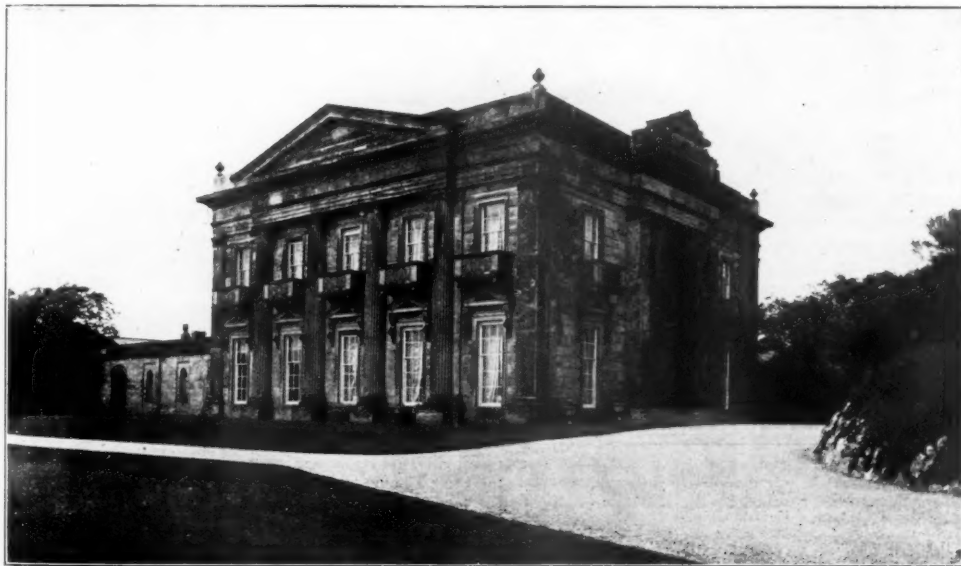
SEAFORTH HALL, SEAFORTH, LIVERPOOL.

Professional connections* served to provide him, at a comparatively early age, with the most enviable opportunities for the expression of his ideas.

In 1825 he was commissioned by the Govern-

* Born in 1800, he was the tenth son of James Burton, one of the most successful builders of the day, and largely employed in the development of London under the Regency.

ment to design the architectural features of Hyde Park, and it is in these works that the delicate quality of his genius is most completely revealed. They are distinguished throughout by a refinement and restraint—a certain niceness of handling—too entirely natural and happy to be the forced product of a rigidly scholastic training. If his larger con-



SEAFORTH HALL, SEAFORTH, LIVERPOOL. JAMES VALE, ARCHITECT.

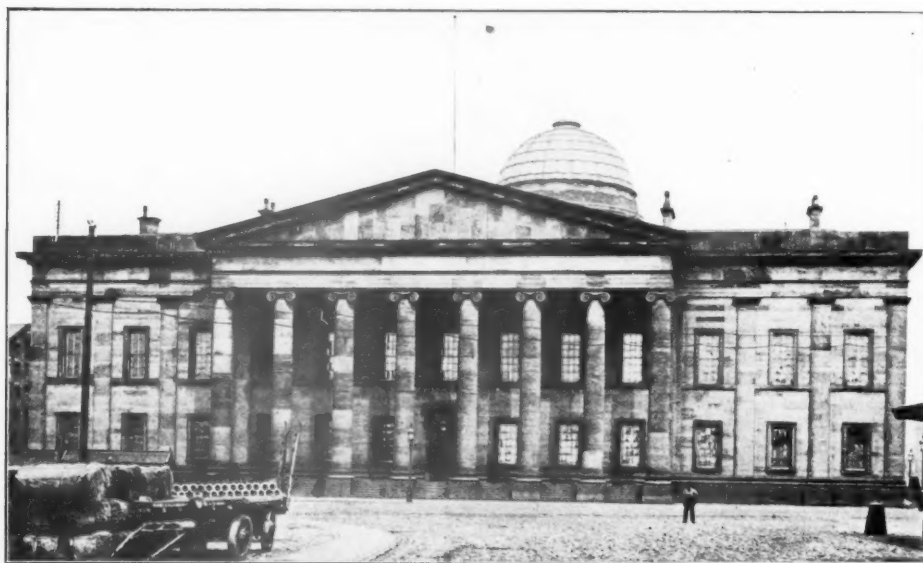
The two views on this page are reproduced by the courtesy of the owner, E. K. Muspratt, Esq., LL.D., Pro-Chancellor of the University of Liverpool.

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ceptions lack vigour, they are exquisitely graceful. They possess something of the character which Flaxman gave to his figures.

The Screen, Hyde Park Corner, has a lightness and precision that make the whole composition a model of elegance, Athenian in its daintiness and irresistibly charming. There seems to be a peculiar appropriateness in most of Burton's designs. The Doric lodges to the park are conceived with a sensible appreciation of their surroundings, particularly the North Lodge, Stanhope Gate, which bears

with present-day design. Their composition is exceedingly simple, consisting only in the careful spacing and proportion of the windows in relation to the wall space. They are not dependent for their expression of purpose upon the adventitious aid of symbolical decoration; though, as Mr. Ronald P. Jones has observed, the Panathenaic frieze beneath the great cornice—which is designed, as in the Italian astylar palaces, with reference to the total height from the ground—the tripods, and the statue of Athene are introduced with admirable



THE CUSTOM HOUSE, LIVERPOOL, WEST ELEVATION. JOHN FOSTER, ARCHITECT.

a certain resemblance in its general Tuscan atmosphere to Schinkel's delightful villas at Sanssouci.

It was during the execution of these works that, in 1827, Burton designed the Athenæum Club. Regarded from the point of view of modern requirements the provision is inadequate,* and even inconvenient, though at the time of its erection it not only satisfied current demands but so far exceeded them as to serve as the model for much subsequent club design.† But in the treatment of the façades Burton has attained a permanent distinction that can only gain by force of contrast

discernment, and serve to echo the intention; they produce an impression of cultured distinction and reserved refinement that naturally denotes the building as the resort of savants and connoisseurs. The whole design is unaffectedly modern, conceived in the most fresh and direct spirit, and in itself more than a justification of the Revival. It is not a conventional study in a barren academic tradition, but a living expression of thought in the logical development of architecture.

Prevailing fashion tended more and more to restrict the opportunities for the exercise of Burton's

* It is to be regretted that within recent years it was thought necessary to provide billiard and smoking rooms: their addition has resulted in the inevitable mutilation of the original design.

† The arrangement adopted in the ground floor consists in the symmetrical disposition of coffee and reception rooms on either side of the hall and staircase which forms the main feature. The hall itself is intentionally somewhat deficient in light. Its deeply coffered arched ceiling,

supported by columns whose caps are modelled on those of the "Temple of the Winds," acquires a rather theatrical effectiveness as the approach to the brilliantly lighted grand staircase. On the floor above, a drawing-room runs the entire length of the main front. The remainder of the first floor is occupied by libraries and committee rooms. A small intermediate story obtains light from some of the metope spaces between the brackets supporting the balcony being used as window openings.

serious monumental art. He is credited with the authorship of the Clarence and Cornwall Terraces in Regent's Park, and carried out much domestic work both in London and the provinces.* His breadth of conception is finely witnessed in the laying-out of the town of St. Leonards-on-Sea, which he undertook in 1839. The planning is axial and symmetrical, and the disposition of the public buildings and terraces particularly well managed. It was his misfortune to be frequently obliged to occupy himself with the trivialities of landscape gardening and the futile reproduction of mediæval forms, and in these he was no more successful than his contemporaries. He suffered, too, from having to conceive his ideas in a stucco period inimical to great efforts in execution. However untruthful his work, both externally and internally, may be from the point of view of apparent material, the deceptions were only such as were forced upon him by the conditions of the time. His employment of substitutes, once the practice be admitted, was invariably reticent and inoffensive. The increasing depravity of public taste, which reached its climax in the eagerly accepted Philistinism of Ruskin, ultimately led Burton to retire from a struggle in which he was hopelessly outmatched. His death in 1881 was received with comparative indifference. One or two professional references† were made to his forgotten career, but for the most part society was too busily engaged in admiring romantically picturesque travesties of Gothic art to bother its head about serious achievement in architecture, and his work was dismissed as "Pagan."

He differed widely from both Cockerell and Elmes in that the nature of his genius was not so isolated as theirs. His work has little of the former's audacity in minor composition, and nothing of the latter's Titanic force of massing. Rather it is typical of the cream of the later general phase of the movement—of the occasional masterpieces to be found here and there throughout the country whose authorship is frequently obscure, and of which the most perfect is, in so far as we know, Seaforth Hall,‡ incomparable in the faultlessness of its proportion and the beauty of its detail.

The individual character of Cockerell's architecture is the more remarkable in consideration of the vast extent of his knowledge, and the almost German zeal with which he had laboured as an

archæologist. The natural result would have been a conventional *réchauffé* of classic detail. Few artists could have come out from such a series of assiduous investigations and careful reconstructions as he had undertaken between 1810 and 1817 in the company of Linckh, Forster, Haller, and Stackelberg, at Ægina, Bassæ, and elsewhere, without their originality being permanently crippled. The worst such a training did for him was temporarily to impair his faculty of practical application.* For the rest, the benefit to his art was incalculable. In receptiveness he was "a Greek of the Great Period." Schinkel's statement of his own ambition "to build, not as the Greeks built, but as the Greeks would have built had they lived now," might have been uttered by Cockerell himself. His ability to refashion motives and to give them a new significance and additional possibilities is without parallel. The only occasion on which he ever consented to lend his powers to the comparatively idle task of reproduction was in the execution (in collaboration with Playfair) of the Scottish National Monument, Edinburgh. And in that case the excuse was admissible—it was to be a modern rendering of the Parthenon. Yet as mediocrity alone remains at the same fixed level of attainment, so Cockerell's achievement fluctuated. In the most important of the work which he undertook shortly after his return—the Bristol Philosophical Institute, the Cambridge University Library,† and the exterior of the London and Westminster Bank in Lothbury‡—there is the breadth of manner of a master, but in his rejected design for the Royal Exchange, London, an extraordinary falling off is evident. Some of the surface treatment below the subsidiary entablature appears frankly unresolved. The six disturbing figures on the broken main cornice seem to have been introduced merely to supply a *raison d'être* for the free-standing columns, and the corner towers are worse than unfortunate. Even Cockerell's superb draughtsmanship does not obscure the unsatisfactory nature of the whole conception.

Shortly after the production of this incomprehensible failure, in 1839, he won the competition for the Gallery at Oxford, known as the Taylor and Randolph Buildings, by a design of exceptional beauty. In this, again, there are columns serving no other purpose than the support of

* His later work included the laying-out of the estate of Eastbourne, Liverpool, now known as Prince's Park.

† Royal Society: Obituary Notice. Fergusson. *Vide also R.I.B.A. Memoirs.*

‡ We have had some difficulty in tracing the origin of this work. It appears to have been erected in the first decade of the 19th century, and was the design of James Vale, partner of Cornelius Sherlock. As their connection resulted in the latter's obtaining the credit for the work, Vale committed suicide.

* Before going out to Greece, in 1810, at the age of twenty-two, he had already worked in his father's office, and in that of Smirke, for some years. His design for the Wellington Palace, produced during his return through Italy, was quite incoherent, the plan having been conceived independently of the elevations.

† Only a fragment of this—the northern side of the quadrangle—has ever been erected.

‡ Tite, with whom Cockerell was working on this occasion, designed the greater part of the interior (*Arch. Review*, vol. xii. No. 71, October 1902, p. 130. *The Life and Works of R. C. Cockerell* by R. P. Cockerell).

detached figures, but they are of such exquisite Ionic grace, and act so admirably as a foil to the solid mass of the building, that objection appears hypercritical. The vertical grouping of the central windows on the wing faces is managed with consummate skill. In such problems of composition Cockerell's resourcefulness invariably discovered an ingenious and quite satisfactory solution. His surface modelling here, as in all his other work, shows a most sensitive appreciation of texture-values, and the balance of the whole design is most carefully preserved, the lions' heads on the attic cornice being apparently introduced to give just the necessary increase in weight along that line. Yet this same concentration upon the most minute affairs of detail led him into the elaboration of such an ineffectual work as the Liverpool and London and Globe Buildings in Dale Street, Liverpool.

The front elevation is finely thought out, whilst that to the Exchange is, in as far as the principal motives are concerned, largely an echo of his Sun Insurance Office in Threadneedle Street, London. Yet his departures from the original are not altogether fortunate, and the single Doric columns, standing each before a recessed staircase and carrying meaningless brackets, are as unjustifiable as Nash's Corinthian columns at the entrance to Buckingham Palace. But in the façade to Exchange Street East there is a general lack of coherence that results in no definite impression on the mind at all, and is simply due to over-attention to individual features. There is more interest than good composition requires,* and technical mannerisms in panelling are accentuated to eccentricity. On this occasion Cockerell's draughtsmanship seems not to have conduced to the expression of real ideas, but rather to the production of paper architecture that is merely clever.

His skill in detail was incomparable, and his power of selection unerring. In the continuation of the interior design of St. George's Hall, which he undertook, on the death of Elmes, in 1849, he had a magnificent opportunity for the exercise of his ability in this direction; and, though the necessarily Roman character of the main hall precluded the achievement of that exquisite refinement with which he himself had most sympathy naturally and by training, he yet obtained an effect of extraordinary splendour without descending to any Augustan vulgarity; the sumptuous magni-

* A defect not to be attributed to the work of Foster, Cockerell's companion on many of his archaeological travels. Foster's designs are almost uniformly dull—of the sort that served to bring the Revival into disrepute. With the exception of his largest undertaking, the Custom House, Liverpool, in which he has undeniably attained something of the "Grand Manner," there is a poverty of thought, an air of stupid heaviness, about his productions, that makes one inclined to reiterate Berlioz's exclamation on hearing one of Cherubini's later oratorios, "A thousand francs for an idea!"

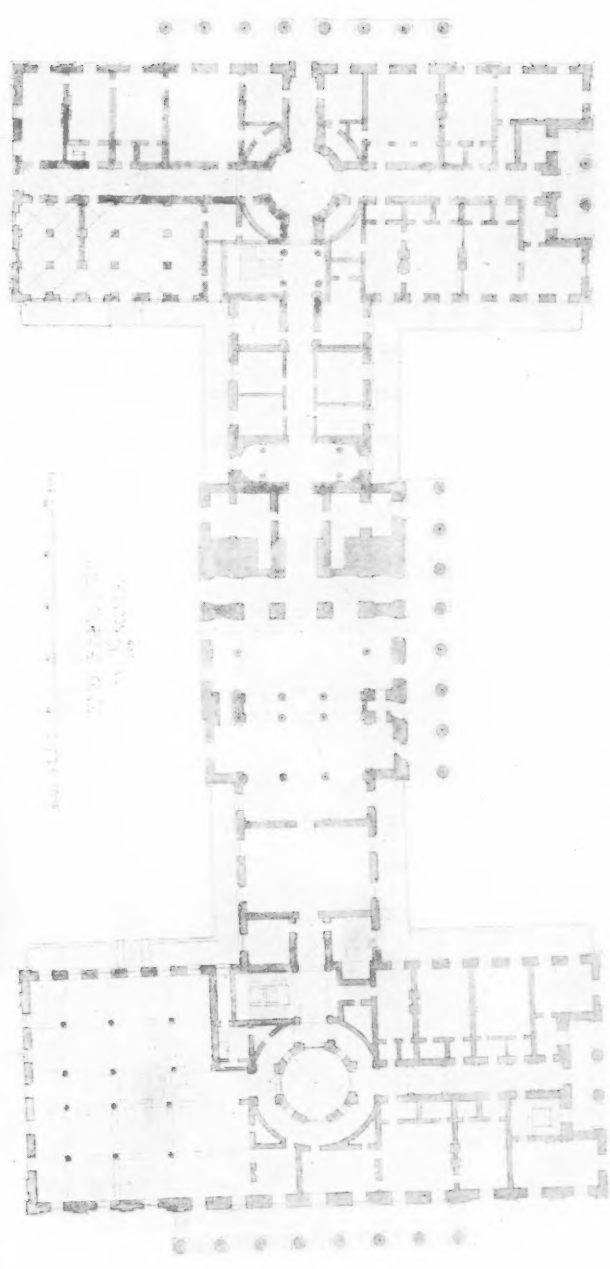
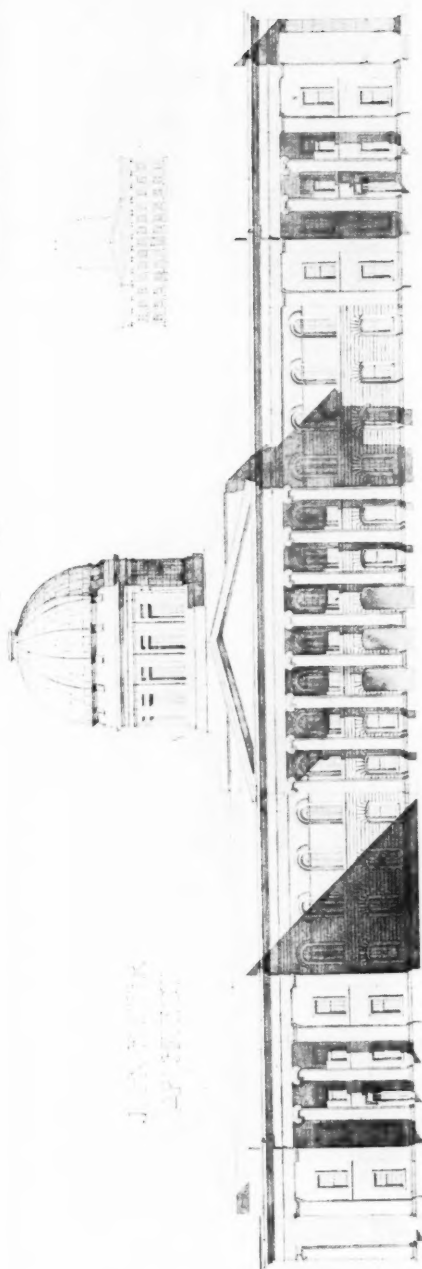
ficence of the bronze doors and the great candelabra does not cloak any actual coarseness of form. He was an eclectic of rare discrimination.

Yet his art was essentially no affair of mere selection or ingenious resource in detail. His greatest work, the Bank of England, Castle Street, Liverpool, shows a sense of mass, an instinctive capability for modelling architectural form on a large scale only possessed in a greater degree by such masters as Dance, Elmes, Playfair, or Thompson. That he lapsed into Gothic on one or two occasions is undeniable; but that the real sanity of his point of view was unaffected by these slips the whole of the rest of his career clearly proves. He had grasped the fundamental fact that the future development of architecture must inevitably be individual, eclectic, and cosmopolitan. He drew from all relevant sources with a fine judgment. His appreciation of Wren did not lead him into a toleration of the coarse sprawling plaster-swag and mouldings of barbaric profile. The beauty of his own detail was a thing beyond contamination. There is a refined graciousness about even his strongest productions that would seem to indicate that he did not regard vigour as an excuse for crudity. In the manner of his expression he is distinct both from his predecessors and from those who followed him. Yet his work is no more remote from real development than that of such moderns as Stanford White or Cass Gilbert. Perhaps Le Duc most nearly approximates to him. His influence on Elmes can have at most extended only to suggestion as to detail.* For in Elmes originality of thought surpassed all other qualities. Whilst Cockerell displayed an amazing facility in the sculptural welding of minor motives, Elmes dealt primarily with architecture in the mass. His reputation is based upon one performance, St. George's Hall, Liverpool,† but it is more firmly established than that of any of his more prolific contemporaries. The brief period of his opportunity,‡ the singleness of his achievement, and its transcendent nature, have all combined to give his

* In Elmes' selected design for the Assize Courts—which were ultimately incorporated in his later scheme—the bases of the Doric columns are modelled on those of the great temple of Agrigento, which Cockerell had investigated many years before (*The Architectural Review*, June 1904, vol. xv. No. 91: "The Life and Work of Harvey Lonsdale Elmes."—R. P. J.).

† The few private houses he executed in the neighbourhood of Liverpool are distinguished by the careful grouping of the windows and the refinement of the detail.

‡ He was born in 1814 and, after some years at school, entered his father's office. In 1839 he entered for the competition for a concert hall in Liverpool, and his design was selected. In 1840 he was again successful in the Liverpool Corporation competition for new assize courts. In 1841 he prepared a design containing both concert halls and assize courts. This was approved and erected under the name of St. George's Hall. On his death (from consumption) in 1847 Cockerell completed the interior "finishings," and the great hall was opened in 1854.



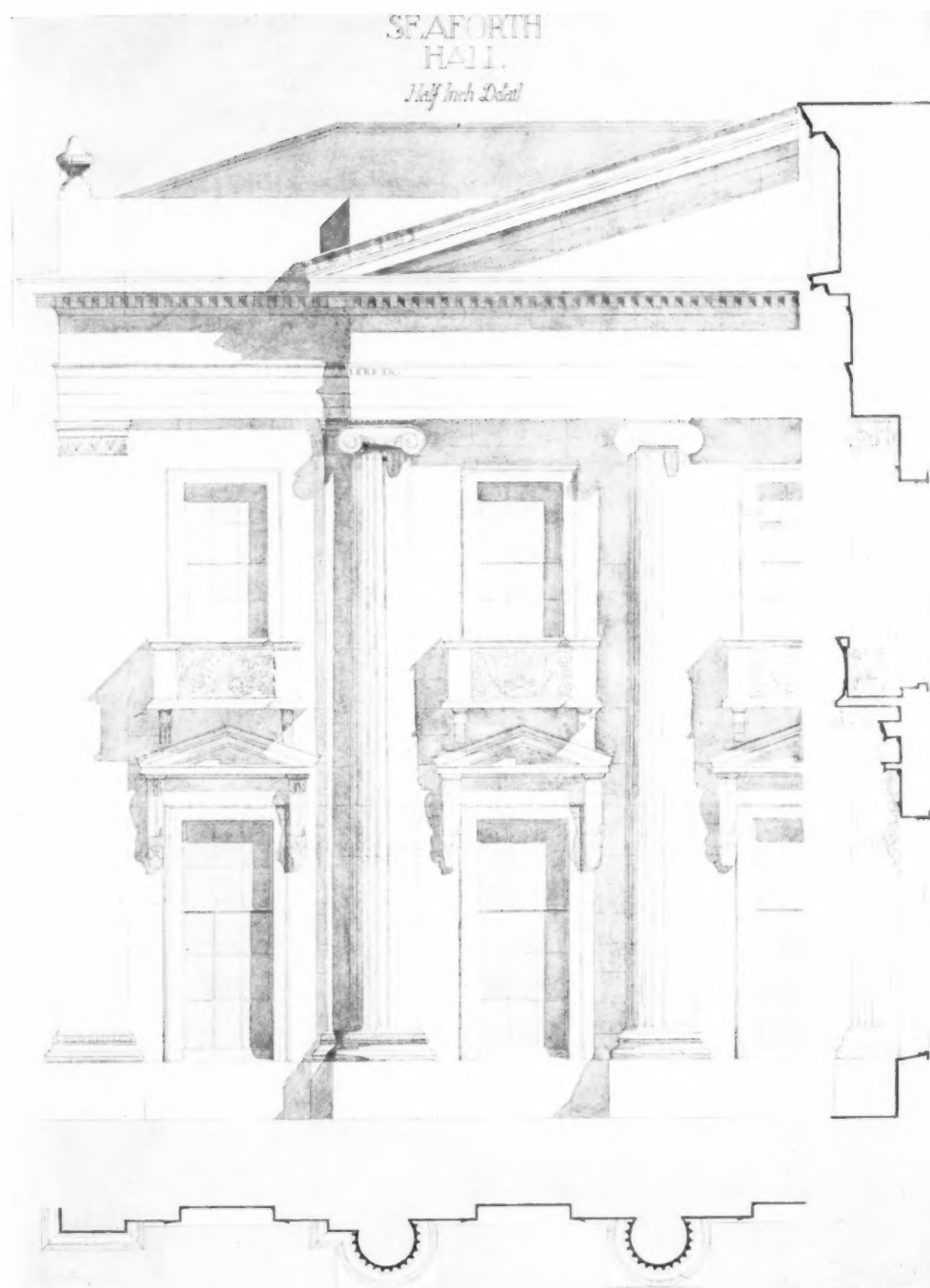
THE CUSTOM HOUSE, LIVERPOOL. JOHN FOSTER, ARCHITECT.
 Reproduced from a measured drawing submitted with the thesis.

Lancelotti, B. *Industria* 1900, v. 1, p. 101.



Lionel B. Budden mens. et del.

SEAFORTH HALL, SEAFORTH, JAMES VALE, ARCHITECT.
Reproduced from a measured drawing submitted with the thesis.



SEAFORTH HALL, SEAFORTH. JAMES VALE, ARCHITECT.
Reproduced from a measured drawing submitted with the thesis.

Lionel D. Duden mens. et del.

career a theatrical brilliance and attractive interest for all time. The significance of his masterpiece may have been temporarily lost amid the strident clamours of those demanding morality in art, but these have passed, or linger on only in country vicarages and municipal art committees, and the work remains.

The disposition of the main blocks embodies the essential quality of unity of conception—the presence of the central hall is indicated by the great attic over the central mass, which gives a definite character to the whole design, “a kind of living attitude and expression.” The elements of the composition are simple and few, but they are combined with the instinctive knowledge of genius. Nothing is botched or unresolved or superfluous. No elevation is elaborated at the expense of any other. The west side, with its screen of square columns, flanked on either side by flat windowed masses, and standing on a double basement story, has a sheer cliff-like grandeur that is calculated to make as mighty a blow upon the mind as the great portico with its magnificent podium and sculptured pediment. The grouping of the whole is beyond criticism—it composes from every point of view.

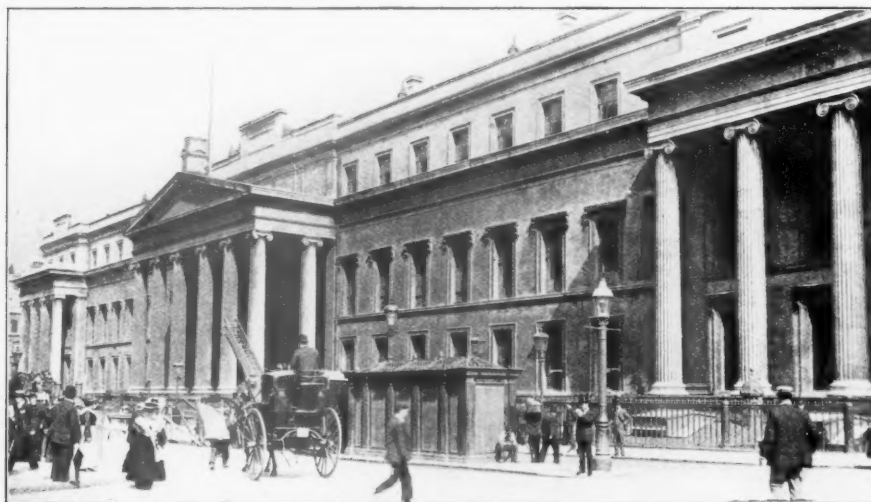
With Elmes architecture was indeed a living art. He was no scholar in a dead or alien language. He anticipated the most modern development, even in the Roman character of his planning. In a sense his conception was at once the crowning glory and the last supreme effort of the Greek Revival—a modern realisation of the Grand Manner.

The full value and meaning of the Revival is only now becoming clear again after a period of mediæval archaeology in architecture, and the

realisation of its significance is the more gradual that we have not yet outgrown the vicious affectations of immature phases of Renaissance architecture which immediately succeeded the collapse of the Gothic movement. The Dutch scroll and the Jacobean columns are still with us, and the suburban practitioner still thinks to ornament the villa porch with strap-work and sporadic panelling of minute dimensions.

But an appreciation of the masters of the Revival is surely dawning. They stood for the recovery of Hellenic sensibility to refinement and beauty of form. They regarded it as an invaluable heritage that had been lost. They were eclectic in the best sense of the word. They did not confine themselves to the reproduction of any particular type which had existed at some previous time, but evolved an architecture in the modern spirit, combining with the flexibility of the Italian and the magnificence of the Roman the refinement of the Greek. They realised that they were not isolated in their civilisation from their classic past, but were indissolubly connected with it, and they perceived that, rightly regarded, we are too far intellectually developed to be content with anything less than a striving after the most perfect forms of expression. Their creed justified itself in the character of their achievement. We of the most modern school can have no greater ambition than to excel their attainments.

Note.—I regret that a Paper in the *Architectural Association Notes* (Vol. xii., 1897) on “The Greek Revival in England,” by Mr. Alexander Wood, F.S.A., escaped my attention till too late to take advantage of it.—L. B. B.



THE GENERAL POST OFFICE, LONDON. SIR ROBERT SMIRKE, ARCHITECT.

